NEW EQUIPMENT DIGEST

A Penton Publication

January, 1957

Volume 22—Number 1

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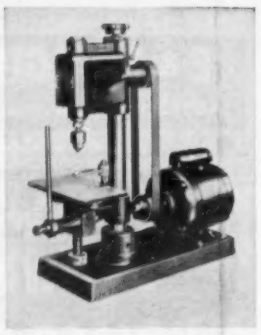
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 16 and 80

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

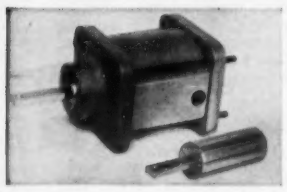
PRECISION TAPPING MACHINE
homing device extends range



Homing device in the Hamilton small-hole precision tapping machine returns spindle to neutral position automatically when pressure on feed lever is released. This stops rotation of tap and permits gentle withdrawal through reverse pressure on feed lever. Thus, thin sheets can be tapped without risk of stripping, and brittle plastics tapped without risk of chipping. Blind holes also can be tapped to very bottom without risk of tap breakage. Homing device extends machine's capacity to work as small and fine as 0.034-in. x 120 and as large and coarse as 0.25-in. x 24. Tapper is driven by ¼-hp 110-v 60-cycle single-phase 1750-rpm motor. Made by **Hamilton Tool Co.**, 901 Hanover St., Hamilton 4, O.

▲ For more details circle **NED-1 A7** on enclosed inquiry slip ▲

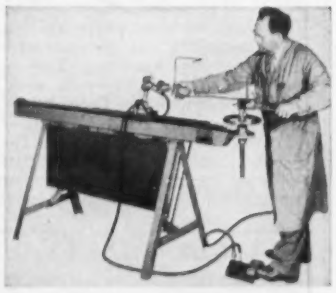
SHOCK-RESISTANT SOLENOID
delivers up to 20-lb thrust



Model K solenoid, designed to withstand excessive impact shock, will deliver a 20-lb thrust at 100 per cent voltage. Available for intermittent duty in both push and pull types, solenoid features a solid cylindrical slotted plunger and heavy-duty, porous bronze bearings to assure alignment of both plunger and plunger extension. Coil has square wire to improve heat dissipation and is furnished with terminal lugs. It is surrounded by circular laminations inside the ⅛-in. iron shell and has top and bottom washer-like laminations. Compressed by the laminations, solenoid has no vertical movement. Unit operates on 115 or 220 v single-phase ac and has 1¾-in. stroke. Made by **Black & Webster, Inc.**, Dept. N-26, 445 Watertown St., Newton 58, Mass.

▲ For more details circle **NED-2 A7** on enclosed inquiry slip ▲

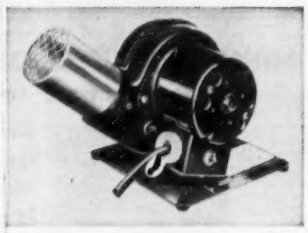
AIR-OPERATED TUBE BENDER
for ¼-in. tubing with 0.035-in. walls



This compressed air-operated duplicating bender for ¼-in. tubing can be quickly setup to duplicate a bend from a template. After required quantity of parts has been bent, bender can be adjusted to duplicate conditions of the second bend on the same tubing. Three ball and socket units enable a double backstop to be placed in any required position along 5-ft table. They are clamped in desired settings by depressing foot-operated pneumatic valve. Template permits checking degree and location of bend, and the distance and the angles between bends. Made by **Wallace Supplies Mfg. Co.**, Dept. NED, 1304 Diversey Pkwy., Chicago 14, Ill.

▲ For more details circle **NED-3 A7** on enclosed inquiry slip ▲

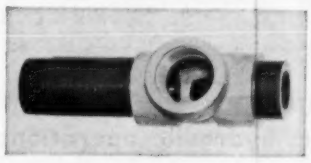
HEATED AIR BLOWER
for local heating, fast drying



Air temperature at the nozzle of this blower is 300° F and the air volume produced is 50 cfm. Velocity of the electrically heated air is 2000 fpm. Unit has a rating of 3400 Btu and 1000 w. It can be plugged into any 115 v, 60 cycle ac outlet for use in accelerating drying processes and for localized heating. Made by **Master Appliance Mfg. Co.**, Dept. 7, 536 Fourth St., Racine, Wis.

▲ For more details circle **NED-4 A7** on enclosed inquiry slip ▲

PLASTIC EDUCTORS
six sizes from ½ to 3 in.



Eductors made of unplasticized polyvinyl chloride resist many corrosive media. They can be used in liquid pumping and mixing operations and will handle solids when particle size permits. Plastic solvents cannot be handled. Six sizes range from ½ to 3 in. Performance characteristics are similar to those of metal eductors of equivalent size. Maximum pressure rating is 125 psi and maximum temperature rating is 160° F. Made by **Schutte & Koerting Co.**, Dept. J-Y, Cornwells Heights, Bucks Co., Pa.

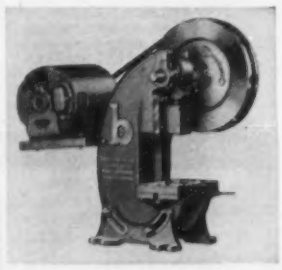
▲ For more details circle **NED-5 A7** on enclosed inquiry slip ▲

AIR VALVE
for 30 to 120-psi service

Large, direct air passages for quick action and spool type plunger construction which keeps operating effort constant in spite of increased air line pressure are features of the PC-151 step valve. Force required to operate this valve is 8¾ lb over a range of air pressure from 30 to 120 psi. For cam operation, plastic knobs are replaced by hardened steel heads. Valves are available in spring return or self-locking type, normally closed or normally open. Made by **Mead Specialties Co.**, Dept. SV-40, 4114 N. Knox Ave., Chicago 41, Ill.

▲ For more details circle **NED-6 A7** on enclosed inquiry slip ▲

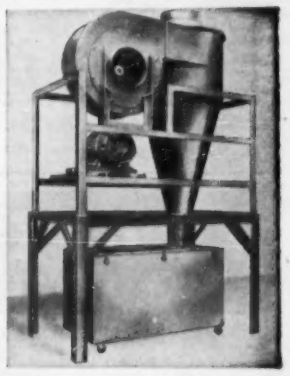
PUNCH PRESS
2-ton model has heavy-duty clutch



This Benchmaster 2-ton punch press is now equipped with the same type heavy-duty clutch installed on the 5 and 8-ton models. Clutch contains oversize, sliding-key type clutch dog encased by strong steel collar which removes driving load from crankshaft keyway. Clutch is standard equipment. Made by **Benchmaster Mfg. Co.**, Dept. NED-1, 1835 W. Rosecrans Ave., Gardena, Calif.

▲ For more details circle **NED-7 A7** on enclosed inquiry slip ▲

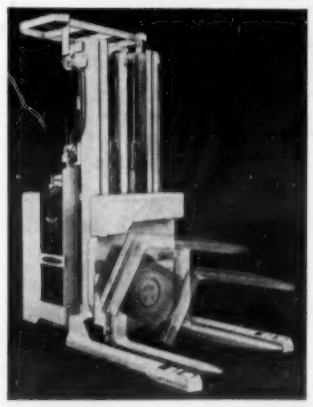
DUST COLLECTOR
storage capacity is 37½ cu ft



Large volumes of dust, chips, shavings and other residue resulting from grinding, buffing, woodworking and similar operations are collected by the model 90 NB 50 dust collector. It has a roll-away dust collecting bin with storage capacity of 37½ cu ft. Bin can be pushed to the dumping spot on its rubber tired, ball bearing casters or handled by a fork lift truck. Air handling capacity is about 10,000 cfm. Fan inlet of the 48 x 82 x 124-in. unit will accommodate 15-in. pipe. Made by **Aget Mfg. Co.**, 1396 E. Church St., Adrian, Mich.

▲ For more details circle **NED-8 A7** on enclosed inquiry slip ▲

REVOLVING FORK TRUCK
dumps parts from steel boxes



Forks which revolve through 360 degrees in either direction can be installed on any Raymond 4000-lb capacity electric straddle truck. A hydraulic motor powers the revolving mechanism through a chain driven sprocket and gear reduction. Movement is controlled by a hand operated valve. Small parts can be dumped from steel boxes into hoppers by the revolving forks which, in their normal position, are used for stacking. Made by **Raymond Corp.**, 41-147 Madison St., Greene, N. Y.

▲ For more details circle **NED-9 A7** on enclosed inquiry slip ▲

HIGH PRESSURE CLEANER
for hot or cold cleaning operations

Instant choice of many different types of cleaning action is afforded by series 4000 Hypressure Jenny cleaning machine. By simple setting of valves on control panel, operator can select any desired cleaning action ranging from 400 gph of cold water at 450 psi pressure up to a mixture of steam, water and cleaning compound at 325° F. Machine is thus adaptable for such diverse jobs as blasting mud or clay from construction or mobile equipment; removing grease and dirt from machines, parts or floors; cleaning prior to painting; or sanitizing and deodorizing. Portable and stationary models are available with electric motor or gasoline engine driven pumps and choice of oil or gas for fuel. Made by **Homestead Valve Mfg. Co.**, Box 84, Coraopolis, Pa.

▲ For more details circle **NED-10 A7** on enclosed inquiry slip ▲

EFFECTIVE EFFICIENT ECONOMICAL

ZAGAR STANDARD MACHINE TOOL SIZES FIT ALL MAKES

way to HOLD your work—and your business WITH

Zagar COLLETS

Don't be caught short! Keep a supply of Zagar collets on hand. Five types: No. 310 Zagar Master; Nos. 2 and 6 W. & S.; No. 5-C; No. 6 W. & S. pads. All but Zagar No. 310 are standard machine tool sizes. All collets are made of oil-hardened tool steel; have flat tops for locating purposes.

Order by mail for shipment from stock.

Ask for Catalog N-1.

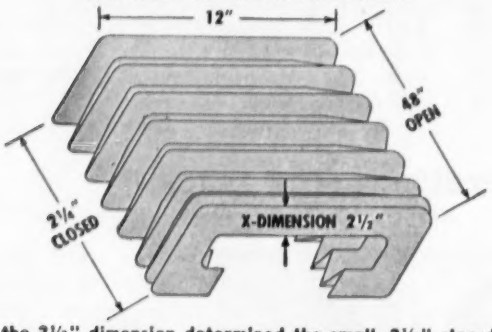
ZAGAR, INC. 23880 LAKELAND BLVD., CLEVELAND 23, OHIO

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

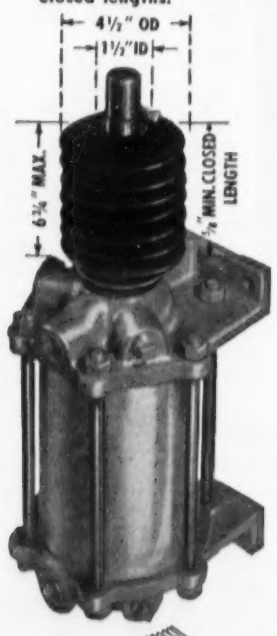
For more details circle NED-11 A7 on enclosed inquiry slip

PROTECTION
GORTITE PLIABLE PARTS

FOR WAYS AND CROSS RAILS FABRICATED FROM NEOPRENE



the 2½" dimension determined the small, 2¼" closed length. Variations in this X dimension govern the closed lengths.



1 or 100 parts as required without mold charge. All lengths are available.

SLEEVES for DIRT EXCLUSION and LUBRICANT RETENTION

ALL SHAPES AND CONTOURS

Shapes and contours shown here are representative of the hundreds of designs supplied to A&A customers. Fabricated from duPont (neoprene-base materials) all the objections to leather parts are effectively surmounted. Zippers and vulcanized seams extend the range of useful service. GORTITE parts withstand temperature extremes —60° to 220°f., without cracking. Bulletin AH-2, suggestions on your designs and cost estimates are sent promptly on your request to—

A&A Mfg. Company Inc.
2017 W. Clybourn St. • Milwaukee 3, Wis.

For more details circle NED-12 A7 on enclosed inquiry slip

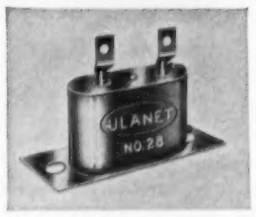
EXECUTIVE'S TIME SAVER

Because the packed schedules of executives today leave so little time for "must" reading, the concise, fact-filled editorial descriptions in NEW EQUIPMENT DIGEST take on added significance. Every effort is made to save reader's time. Only essential what, why and where information is presented in each "capsule" news item. N.E.D. is edited to give pertinent facts. The digest coverage enables you to quickly determine if a new product suits your production or maintenance needs. Either the easy-to-use self-mailing inquiry slip or the manufacturer's name and address facilitates further contact or actual purchase of the product.

The N.E.D. reading habit has already proved profitable to thousands of readers. Why not try it? You'll not only save time, but you will find solutions to many of the vexatious problems in your plant.

A. N. Gregg
EDITOR

MINIATURE THERMOSTAT
sealed surface sensing type



High stability and rapid temperature response are designed into this hermetically sealed surface - sensing thermostat. It is precalibrated to a specifie[illegible] perature and the [illegible] ment screw is sealed. [illegible] relief construction prevents calibration drift [illegible] temperature extremes. Size is 5/16-in. wide b[illegible] in. high, exclusive of terminals. Gold plate[illegible] transfer bracket is 1¼ x 7/16-in. Rating is 5 [illegible] 28 v dc noninductive load or 5 amp at 115 v ac. [illegible] by **George Ulanet Co.**, 425 Market St., Newark [illegible]

For more details circle NED-13 A7 on enclosed inquiry s[illegible]

AUTOMATIC COUNTER
for pneumatic, hydraulic opera[illegible]

Models with five or six digits and knob or key reset are available in line of accurate automatic counting devices for use with operations controlled by pneumatic or hydraulic action. They screw into the line controlling any air or hydraulic cylinder and [illegible] porate no linkage. Clockwise and counterclo[illegible] mode's are offered for use with pressures up t[illegible] lb and up to 300 counts per minute. Made by [illegible] **maticount**, 3400 N. E. 54th Ave., Portland, O[illegible]

For more details circle NED-14 A7 on enclosed inquiry s[illegible]

HOW TO INSURE TOP METALWORKING PERFORMANCE

for only $1.00

Send for a trial order of

CMD ANTI-SCORING LUBRICANTS

For top performance on lathe centers, grinding, press fit, stamping, die posts and many other operations—CMD ANTI-SCORING Lubricant can't be beat. It makes your operations smoother, faster, easier and of course more profitable. Prevents scoring seizing, galling...all bugaboos in modern machining work. This trial order will start *you* on *your* way to top performance where a high pressure lubricant is needed. You will be surprised to find how long it lasts. Get yours today in both oil and grease consistencies.

TRIAL ORDER—TWO FOUR OZ. TUBES $1.00

Send me my order of CMD Lubricants right away! { Bill me / Bill my company }

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Company Name _____

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Chicago Manufacturing and Distributing Company
1902 West 46th St., Chicago 9, Illinois

CHICAGO MANUFACTURING & DISTRIBUTING CO.

For more details circle NED-15 A7 on enclosed inquiry slip

TRIPLE-E Cylinder Clamps

give you | rugged construction / longer operating life

HOOKS INTO EITHER AIR OR HYDRAULIC LINE
Operates on standard air line, or your hydraulic line.

COMPACT, RUGGED CLAMP CONSTRUCTION
All-welded bar stock insures strength. All pivot points are bushed with Merriman Broach Fit hardened bushings.

UNIQUE ADAPTER JOINS CYLINDER TO CLAMP
Prevents any deflection in clamp from being transmitted to the cylinder rod—for longer operating life.

CYLINDER IS COMPLETELY NON-CORROSIVE
End covers, tube and piston are made of brass—nickel plated for long wear and smooth action. All components oil-impervious. Hardened trunnion pins withstand wear.

Write for Tracing Templates and detailed Catalog Sheets

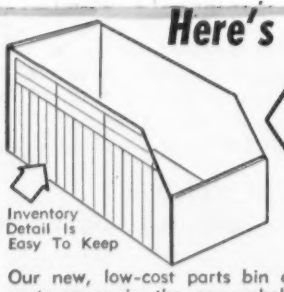
E & E ENGINEERING, INC.
15023 Harper Avenue • Detroit 24, Michigan

For more details circle NED-16 A7 on enclosed inquiry slip

Save time and money—

WAVY

Here's the Answer!



Low-Cost Efficiency in Stocking, Controlling Small Parts Is Here!

Our new, low-cost parts bin enables you to get more parts space in the same shelf area. The corrugated cardboard bins are stored flat until needed, saving valuable space. Assembly is fast and efficient without taping or stapling. Each Brown Bin holds up to 200 pounds pressure, can be used over and over again. The bins are cut down at the front to reveal contents. Fronts can be labeled for quick identification; sides are printed for easy inventory record keeping. In four convenient sizes. Order samples today for test in your plant!

SELF-LOCKING BROWN BINS	IN LOTS OF—	
	50 to 499	500 to 1,999
No. 1 BIN 2" x 12"	9c ea.	7c ea.
No. 2 BIN 4" x 12"	11c ea.	8½c ea.
No. 3 BIN 6" x 12"	13c ea.	10c ea.
No. 4 BIN 12" x 12"	15c ea.	13c ea.

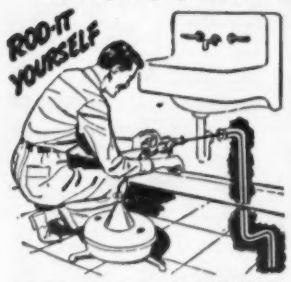
Sample Set Sent Free on Request

The Brown Company
857 N. Central Ave. Knoxville 17, Tenn.

For more details circle NED-18 A7 on enclosed inquiry slip

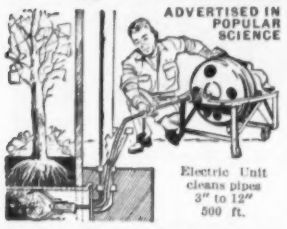
YOU MUST READ THIS!

Before you pay out another costly plumbing bill



CHICAGO—Jan. 1st—Factories, Offices, Machine Shops including Home Owners are constantly having trouble with clogged-up pipes which proves expensive in Costly Plumbing Bills—

But now—here is a **new Rodding Tool** designed to clean out the most stubborn drain & sewer stoppages. Not just an ordinary rod, but a patented unit guaranteed to make every bend up to 100 ft. A new discovery in Swedish music wire gives the rod 100% more flexibility than any other sewer cable. Yet anyone can operate this rod which is whirled down the drain in a few minutes.



TOILETS, URINALS, SINKS, and FLOOR DRAINS clogged with paper, grease, rags, soap, metal chips, and sand can be cleared **saving the owner the Rodding Tools price, the first time it is used.** Cutter blades can be attached for removing roots. This new unit can be used on any ½" to 6 inch waste pipe including Septic Lines, Sewers, Laundry Tubs, Bathtubs, and avoids Flooded Basements. Obstructions give away immediately when struck by this new type of Sewer Machine.

We offer this new Rodding Tool on a 30-Day Free Trial to prove its value. **BUT MOST IMPORTANT IS THIS**—What is this Tool worth to your Building, Factory or in your own Home in Costly Plumbing Bills Saved! FREE BOOKLET lists latest Discoveries in Hand & Electric Units, Root Cutters, Water Impact Guns—For your own good—Fill coupon now. **No agent will call,** or write Postcard (Chgo. phone KIldare 5-1702)

MILLER SEWER ROD, Dept. N.D., 4642 N. Central Ave., Chicago 30, Ill. Please send FREE BOOKLET on Rodding. I am not obligated.

NAME .....

FIRM .....

STREET ..... CITY ..... STATE .....

▲ For more details circle **NED-19 A7** on enclosed inquiry slip ▲

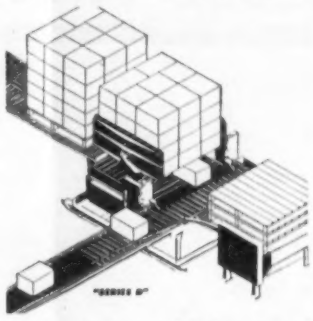
EXTRUSIONS

PAGES

AUTOMATIC PALLET UNLOADER

conveyorizes 25-30 cases per minute

After receiving pallet loads of cases, the Alvey De-Palletizer automatically unloads cases from the pallet one at a time onto a conveyor line at a rate of 25 to 30 per minute.



Lift trucks are usually used to deposit loaded pallets on the incoming line which can be custom designed to specific requirements. Conveyor line can also be built to order. Unloader is electronically controlled and power actuated by electric motors and hydraulic devices. Minimum and maximum pallet sizes which can be accommodated are 24 x 24 in. and 48 x 48 in. Empty pallets are automatically stacked in machine's magazine. Made by **Alvey Conveyor Mfg. Co.,** 9259 Olive Street Rd., St. Louis 24, Mo.

▲ For more details circle **NED-22 A7** on enclosed inquiry slip ▲

ELECTRODE HOLDER

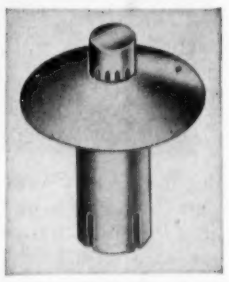
three weights in 200-500 amp range

Incorporation of a low trigger in this welding electrode holder makes possible rapid one-hand welding rod release. Tip on shields the hinge pin from weld spatter. has interchangeable parts and an enclosed which cannot be knocked out. Its insulation nds high temperatures, and the grips will p or absorb moisture. Three weights are avail- ranges from 200 to 500 amp. Made by **Miller Mfg. Co.,** 716 S. Bounds St., Appleton, Wis.

more details circle **NED-23 A7** on enclosed inquiry slip ▲

RIVET

istens wood, metal panels together



hammer is required to netal to metal or metal 1 using the Pin-Grip ivet. The expansion stener consists of slot- red rivet body and pin assembled in one Knurls hold fastener . When pin is driven, of rivet expands in ections, exerting pow- ll-up action. Rivets are installed from one material only. Wide range of diameters and gths are available in round or flush heads. **y Star Expansion,** 151 Cedar St., New York

more details circle **NED-24 A7** on enclosed inquiry slip ▲

STRENGTH AND FLEXIBILITY

Recent advances in manufacturing techniques have made possible the production of flexible shafts able to handle loads greatly exceeding those of some years ago when flexible shafting was largely confined to the handling of small loads. This was due to the size of the flexible cable having to be enlarged excessively in ratio to the load applied.

For example, a flexible shaft which will carry a load of 55 lb. inches will require a flexible cable with a .187" diameter. This cable has a torsional deflection of only 4.7° and may be bent into a minimum radius of 3" while made to rotate in either a clockwise or counter clockwise direction when being viewed from the driven end. Previously, this same load of 55 lb. inches would have required a much more cumbersome and more expensive cable which would have lost its flexibility with the increase of the cable diameter.

Flexible shafting for use in industry offers distinct advantages in alignment, the main advantage being its ability to transmit power over, under and around obstacles without the use of costly and complicated gearing. It responds immediately to the drive power and may function in a continuous or intermittent operation. Flexible shafts may be composed of either power drive cable for rotation in either a clockwise or counter clockwise direction, or they may be composed of remote control cable which provides for rotation both clockwise and counter clockwise.

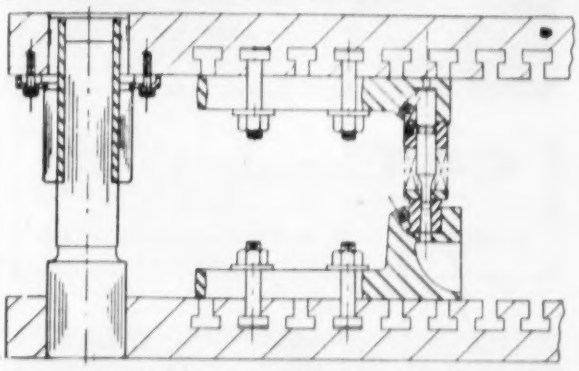
The F. W. Stewart Corporation is prepared to manufacture complete flexible shaft assemblies to your specifications which will permit easy and economical incorporation of flexible shafts into your designs.

Send for further details. F. W. Stewart Corporation, 4311-13 Ravenswood Avenue, Chicago 13, Illinois.

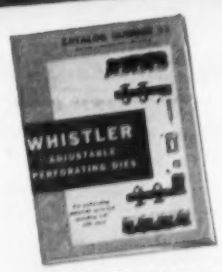
▲ For more details circle **NED-26 A7** on enclosed inquiry slip ▲

ADJUSTABLE DIES by WHISTLER

• Operate like a single purpose die • Easy to set-up and make changes • Interchangeable and re-usable parts always ready for a new job • Reduce die costs to a new low • Pierce holes in any desired arrangement of shapes and sizes • Precision piercing of materials to ¼" thick steel.



Above: Sectional drawing of a Whistler adjustable punch and die unit assembled in T-slot die set. **Below:** A completely assembled Whistler adjustable die ready for the press.



YOU NEED THIS CATALOG

to see for yourself in dollars and cents what this adjustable die making method can do for your plant. Send for it right now...without obligation.

S. B. WHISTLER & SONS, INC.
750 Military Road, Buffalo 23, N. Y.

ADJUSTABLE, MAGNETIC and CUSTOM DIES FOR ALL INDUSTRY
Direct Factory Representatives Located in Principal Industrial Areas

▲ For more details circle **NED-27 A7** on enclosed inquiry slip ▲

ONE MIXER DOES IT

AT LOW COST - FOR MANY DIFFERENT MIXING JOBS!

The **PATTERSON**

TYPHOON

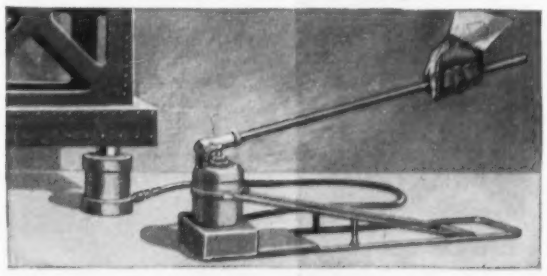
PORTABLE POWER MIXER

If you have a batch mixing problem, solve it with TYPHOON Portable Mixers! A single unit serves several tanks or kettles—easy to carry from point to point, light, powerful, sturdy, long-lived. Direct or geared drive models from ¼ to ¾ HP. Write!

The Patterson Foundry and Machine Company
A Subsidiary of Ferro Corporation
East Liverpool, Ohio, U. S. A.
The Patterson Foundry and Machine Company, (Canada) Limited
Toronto, Canada

▲ For more details circle **NED-21 A7** on enclosed inquiry slip ▲

This hand hydraulic jack gets into really small places



Consists of:

- Hydraulic ram, 8-ft. tube, hand pump, 27½-in. steel lever.
- Moves 30-tons 2-ins. in any direction.
- Closed it is 4½"-ins. high, weighs 38 lbs.
- "Lo-Hite" is the name (No. 30-H-4.5).

Ask for bulletin AD-32-N.

Duff-Norton Company
P. O. Box 1889 · Pittsburgh 30, Pa.
Toronto 6, Ontario

▲ For more details circle **NED-25 A7** on enclosed inquiry slip ▲

EFFECTIVE EFFICIENT ECONOMICAL

ZAGAR STANDARD MACHINE TOOL SIZES FIT ALL MAKES

way to HOLD your work—and your business WITH

Zagar COLLETS

Don't be caught short! Keep a supply of Zagar collets on hand. Five types: No. 310 Zagar Master; Nos. 2 and 6 W. & S.; No. 5-C; No. 6 W. & S. pads. All but Zagar No. 310 are standard machine tool sizes. All collets are made of oil-hardened tool steel; have flat tops for locating purposes.

Order by mail for shipment from stock.

Ask for Catalog N-1.

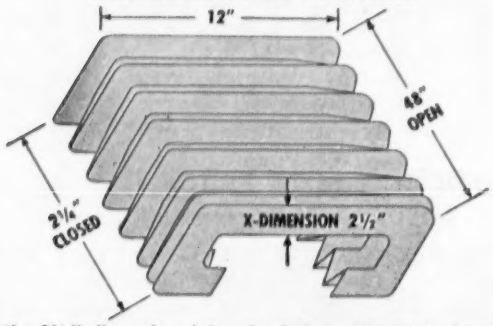
ZAGAR, INC. 23880 LAKELAND BLVD., CLEVELAND 23, OHIO

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

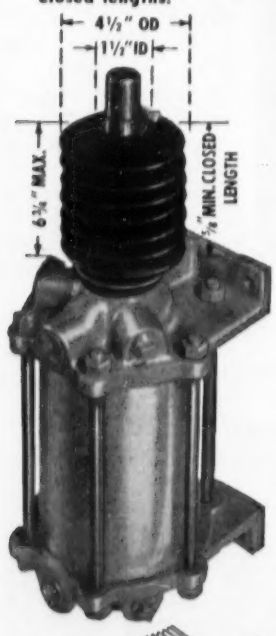
For more details circle NED-11 A7 on enclosed inquiry slip

PROTECTION
GORTITE PLIABLE PARTS

FOR WAYS AND CROSS RAILS FABRICATED FROM NEOPRENE



the 2½" dimension determined the small, 2¼" closed length. Variations in this X dimension govern the closed lengths.



1 or 100 parts as required without mold charge. All lengths are available.

SLEEVES for DIRT EXCLUSION and LUBRICANT RETENTION

ALL SHAPES AND CONTOURS

Shapes and contours shown here are representative of the hundreds of designs supplied to A&A customers. Fabricated from duPont (neoprene-base materials) all the objections to leather parts are effectively surmounted. Zippers and vulcanized seams extend the range of useful service. GORTITE parts withstand temperature extremes −60° to 220°f., without cracking. Bulletin AH-2, suggestions on your designs and cost estimates are sent promptly on your request to—

A&A Mfg. Company Inc.
2017 W. Clybourn St. • Milwaukee 3, Wis.

For more details circle NED-12 A7 on enclosed inquiry slip

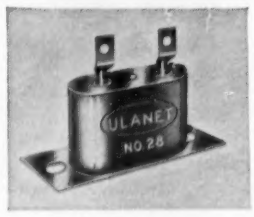
EXECUTIVE'S TIME SAVER

Because the packed schedules of executives today leave so little time for "must" reading, the concise, fact-filled editorial descriptions in NEW EQUIPMENT DIGEST take on added significance. Every effort is made to save reader's time. Only essential what, why and where information is presented in each "capsule" news item. N.E.D. is edited to give pertinent facts. The digest coverage enables you to quickly determine if a new product suits your production or maintenance needs. Either the easy-to-use self-mailing inquiry slip or the manufacturer's name and address facilitates further contact or actual purchase of the product.

The N.E.D. reading habit has already proved profitable to thousands of readers. Why not try it? You'll not only save time, but you will find solutions to many of the vexatious problems in your plant.

A. N. Gregg
EDITOR

MINIATURE THERMOSTAT
sealed surface sensing type



High stability and rapid temperature response are designed into this hermetically sealed surface - sensing thermostat. It is precalibrated to a specified temperature and the adjustment screw is sealed. Strain relief construction prevents calibration drift under temperature extremes. Size is 5/16-in. wide by 7/16-in. high, exclusive of terminals. Gold plated heat transfer bracket is 1¼ x 7/16-in. Rating is 5 amp at 28 v dc noninductive load or 5 amp at 115 v ac. Made by **George Ulanet Co.**, 425 Market St., Newark 5, N. J.

For more details circle NED-13 A7 on enclosed inquiry slip

AUTOMATIC COUNTER
for pneumatic, hydraulic operations

Models with five or six digits and knob or key reset are available in line of accurate automatic counting devices for use with operations controlled by pneumatic or hydraulic action. They screw into the line controlling any air or hydraulic cylinder and incorporate no linkage. Clockwise and counterclockwise mode's are offered for use with pressures up to 5000 lb and up to 300 counts per minute. Made by **Pneumaticount**, 3400 N. E. 54th Ave., Portland, Oreg.

For more details circle NED-14 A7 on enclosed inquiry slip

HOW TO INSURE TOP METALWORKING PERFORMANCE

for only $1.00

Send for a trial order of

CMD ANTI-SCORING LUBRICANTS

For top performance on lathe centers, grinding, press fit, stamping, die posts and many other operations—CMD ANTI-SCORING Lubricant can't be beat. It makes your operations smoother, faster, easier and of course more profitable. Prevents scoring seizing, galling...all bugaboos in modern machining work. This trial order will start *you* on *your* way to top performance where a high pressure lubricant is needed. You will be surprised to find how long it lasts. Get yours today in both oil and grease consistencies.

TRIAL ORDER—TWO FOUR OZ. TUBES $1.00

Send me my order of CMD Lubricants right away! { Bill me / Bill my company

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CHICAGO MANUFACTURING & DISTRIBUTING CO.

For more details circle NED-15 A7 on enclosed inquiry slip

TRIPLE-E Cylinder Clamps

give you | rugged construction / longer operating life

HOOKS INTO EITHER AIR OR HYDRAULIC LINE
Operates on standard air line, or your hydraulic line.

COMPACT, RUGGED CLAMP CONSTRUCTION
All-welded bar stock insures strength. All pivot points are bushed with Merriman Broach Fit hardened bushings.

UNIQUE ADAPTER JOINS CYLINDER TO CLAMP
Prevents any deflection in clamp from being transmitted to the cylinder rod—for longer operating life.

CYLINDER IS COMPLETELY NON-CORROSIVE
End covers, tube and piston are made of brass—nickel plated for long wear and smooth action. All components oil-impervious. Hardened trunnion pins withstand wear.

Write for Tracing Templates and detailed Catalog Sheets

E & E ENGINEERING, INC.
15023 Harper Avenue • Detroit 24, Michigan

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Save time and money—

BROWNING ROLLER CHAIN DRIVES

. . . using Browning's famous interchangeable bushing system

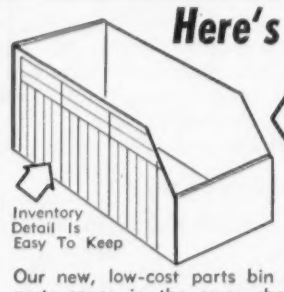
For quality and economy, specify Browning's smooth running roller chain and precision sprockets with simplified split taper compression bushing. Browning's unbreakable bushing mounts quickly, easily—saves shop time, lowers costs. Also used in Browning couplings, paper pulleys, sheaves; standardizes plant on one-type bushing.

Send for FREE NEW CATALOG
52 pages of engineering data on Browning Roller Chain Drives. Ask for catalog CD-102.

Browning MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY

For more details circle NED-17 A7 on enclosed inquiry slip

Here's the Answer!



Low-Cost Efficiency in Stocking, Controlling Small Parts Is Here!

Our new, low-cost parts bin enables you to get more parts space in the same shelf area. The corrugated cardboard bins are stored flat until needed, saving valuable space. Assembly is fast and efficient without taping or stapling. Each Brown Bin holds up to 200 pounds pressure, can be used over and over again. The bins are cut down at the front to reveal contents. Fronts can be labeled for quick identification; sides are printed for easy inventory record keeping. In four convenient sizes. Order samples today for test in your plant!

SELF-LOCKING BROWN BINS	IN LOTS OF—	
	50 to 499	500 to 1,999
No. 1 BIN 2" x 12"	9c ea.	7c ea.
No. 2 BIN 4" x 12"	11c ea.	8½c ea.
No. 3 BIN 6" x 12"	13c ea.	10c ea.
No. 4 BIN 12" x 12"	15c ea.	13c ea.

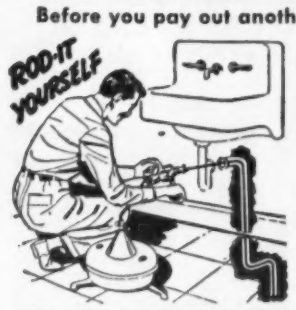
Sample Set Sent Free on Request

The Brown Company
857 N. Central Ave. Knoxville 17, Tenn.

For more details circle NED-18 A7 on enclosed inquiry slip

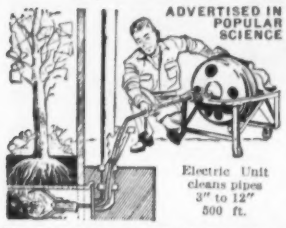
YOU MUST READ THIS!

Before you pay out another costly plumbing bill



CHICAGO—Jan. 1st—Factories, Offices, Machine Shops including Home Owners are constantly having trouble with clogged-up pipes which proves expensive in Costly Plumbing Bills—

But now—here is a **new Rodding Tool** designed to clean out the most stubborn drain & sewer stoppages. Not just an ordinary rod, but a patented unit guaranteed to make every bend up to 100 ft. A new discovery in Swedish music wire gives the rod 100% more flexibility than any other sewer cable. Yet anyone can operate this rod which is whirled down the drain in a few minutes.



TOILETS, URINALS, SINKS, and FLOOR DRAINS clogged with paper, grease, rags, soap, metal chips, and sand can be cleared **saving the owner the Rodding Tools price, the first time it is used.** Cutter blades can be attached for removing roots. This new unit can be used on any ½" to 6 inch waste pipe including Septic Lines, Sewers, Laundry Tubs, Bathtubs, and avoids Flooded Basements. Obstructions give away immediately when struck by this new type of Sewer Machine.

We offer this new Rodding Tool on a 30-Day Free Trial to prove its value. **BUT MOST IMPORTANT IS THIS**—What is this Tool worth to your Building, Factory or in your own Home in Costly Plumbing Bills Saved! FREE BOOKLET lists latest Discoveries in Hand & Electric Units, Root Cutters, Water Impact Guns—For your own good—Fill coupon now. **No agent will call,** or write Postcard (Chgo. phone KIldare 5-1702)

MILLER SEWER ROD, Dept. N.D., 4642 N. Central Ave., Chicago 30, Ill. Please send FREE BOOKLET on Rodding. I am not obligated.

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STREET ..... CITY ..... STATE .....

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EXTRUSIONS

TO YOUR

SPECIFICATIONS

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If you need production of extruded plastic shapes, or special plastic compounding to meet unusual product specifications, write, wire or phone Conneaut. We have the experience and facilities to meet your requirements for either or both efficiently, rapidly and economically. At no obligation we'll quote from your prints and specifications, or analyze your problem and make recommendations.

Write for FREE Illustrated Brochure

giving complete details on Conneaut's *custom* service in plastic compounding and extruding. 460-D

CONNEAUT
RUBBER & PLASTIC COMPANY
CONNEAUT, OHIO

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ONE MIXER DOES IT

AT LOW COST - FOR MANY DIFFERENT MIXING JOBS!

The PATTERSON

TYPHOON

PORTABLE POWER MIXER

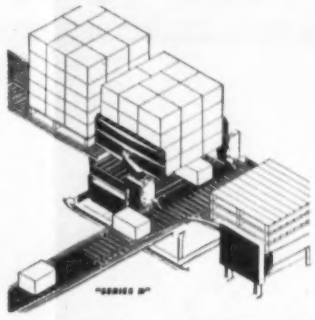
If you have a batch mixing problem, solve it with TYPHOON Portable Mixers! A single unit serves several tanks or kettles—easy to carry from point to point, light, powerful, sturdy, long-lived. Direct or geared drive models from ¼ to ¾ HP. Write!

The Patterson Foundry and Machine Company
A Subsidiary of Ferro Corporation
East Liverpool, Ohio, U. S. A.
The Patterson Foundry and Machine Company, (Canada) Limited
Toronto, Canada
MONTREAL

▲ For more details circle **NED-21 A7** on enclosed inquiry slip ▲

AUTOMATIC PALLET UNLOADER
conveyorizes 25-30 cases per minute

After receiving pallet loads of cases, the Alvey De-Palletizer automatically unloads cases from the pallet one at a time onto a conveyor line at a rate of 25 to 30 per minute. Lift trucks are usually used to deposit loaded pallets on the incoming line which can be custom designed to specific requirements. Conveyor line can also be built to order. Unloader is electronically controlled and power actuated by electric motors and hydraulic devices. Minimum and maximum pallet sizes which can be accommodated are 24 x 24 in. and 48 x 48 in. Empty pallets are automatically stacked in machine's magazine. Made by **Alvey Conveyor Mfg. Co.,** 9259 Olive Street Rd., St. Louis 24, Mo.



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ELECTRODE HOLDER
three weights in 200-500 amp range

Incorporation of a low trigger in this welding electrode holder makes possible rapid one-hand welding rod release. Tip insulation shields the hinge pin from weld spatter. Holder has interchangeable parts and an enclosed spring which cannot be knocked out. Its insulation withstands high temperatures, and the grips will not warp or absorb moisture. Three weights are available in ranges from 200 to 500 amp. Made by **Miller Electric Mfg. Co.,** 716 S. Bounds St., Appleton, Wis.

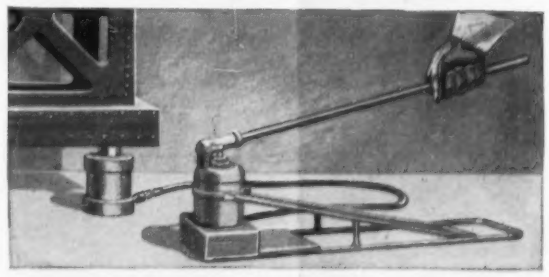
▲ For more details circle **NED-23 A7** on enclosed inquiry slip ▲

DRIVE RIVET
fastens wood, metal panels together

Only a hammer is required to fasten metal to metal or metal to wood using the Pin-Grip drive rivet. The expansion type fastener consists of slotted, bored rivet body and knurled pin assembled in one piece. Knurls hold fastener together. When pin is driven, bottom of rivet expands in four directions, exerting powerful pull-up action. Rivets are installed from one side of material only. Wide range of diameters and grip lengths are available in round or flush heads. Made by **Star Expansion,** 151 Cedar St., New York 6, N. Y.

▲ For more details circle **NED-24 A7** on enclosed inquiry slip ▲

This hand hydraulic jack gets into really small places



Consists of:

- Hydraulic ram, 8-ft. tube, hand pump, 27½-in. steel lever.
- Moves 30-tons 2-ins. in any direction.
- Closed it is 4½"-ins. high, weighs 38 lbs.
- "Lo-Hite" is the name (No. 30-H-4.5).

Ask for bulletin AD-32-N.

Duff-Norton Company
P. O. Box 1889 · Pittsburgh 30, Pa.
Toronto 6, Ontario

▲ For more details circle **NED-25 A7** on enclosed inquiry slip ▲

STRENGTH AND FLEXIBILITY

Recent advances in manufacturing techniques have made possible the production of flexible shafts able to handle loads greatly exceeding those of some years ago when flexible shafting was largely confined to the handling of small loads. This was due to the size of the flexible cable having to be enlarged excessively in ratio to the load applied.

For example, a flexible shaft which will carry a load of 55 lb. inches will require a flexible cable with a .187" diameter. This cable has a torsional deflection of only 4.7° and may be bent into a minimum radius of 3" while made to rotate in either a clockwise or counter clockwise direction when being viewed from the driven end. Previously, this same load of 55 lb. inches would have required a much more cumbersome and more expensive cable which would have lost its flexibility with the increase of the cable diameter.

Flexible shafting for use in industry offers distinct advantages in alignment, the main advantage being its ability to transmit power over, under and around obstacles without the use of costly and complicated gearing. It responds immediately to the drive power and may function in a continuous or intermittent operation. Flexible shafts may be composed of either power drive cable for rotation in either a clockwise or counter clockwise direction, or they may be composed of remote control cable which provides for rotation both clockwise and counter clockwise.

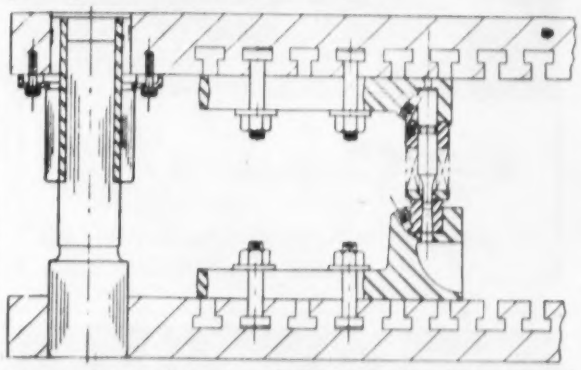
The F. W. Stewart Corporation is prepared to manufacture complete flexible shaft assemblies to your specifications which will permit easy and economical incorporation of flexible shafts into your designs.

Send for further details. F. W. Stewart Corporation, 4311-13 Ravenswood Avenue, Chicago 13, Illinois.

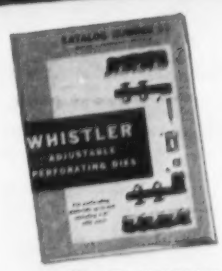
▲ For more details circle **NED-26 A7** on enclosed inquiry slip ▲

ADJUSTABLE DIES by WHISTLER

• Operate like a single purpose die • Easy to set-up and make changes • Interchangeable and re-usable parts always ready for a new job • Reduce die costs to a new low • Pierce holes in any desired arrangement of shapes and sizes • Precision piercing of materials to ¼" thick steel.



Above: Sectional drawing of a Whistler adjustable punch and die unit assembled in T-slot die set. **Below:** A completely assembled Whistler adjustable die ready for the press.



YOU NEED THIS CATALOG

to see for yourself in dollars and cents what this adjustable die making method can do for your plant. Send for it right now...without obligation.

S. B. WHISTLER & SONS, INC.
750 Military Road, Buffalo 23, N. Y.

ADJUSTABLE, MAGNETIC and CUSTOM DIES FOR ALL INDUSTRY
Direct Factory Representatives Located in Principal Industrial Areas

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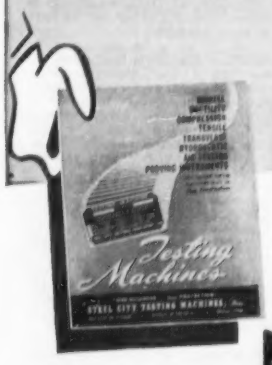
STEEL CITY TESTERS ARE SUITED TO YOUR INDIVIDUAL NEEDS . . .

Yours for the asking...



This brochure illustrates and describes many types of machines for testing physical properties of metals. It belongs in your file.

Write to:

Steel City Testing Machines Inc

8819 Lyndon Ave., Detroit 38, Mich.

Sales offices in *all* metalworking areas.

For more details circle NED-28 A7 on enclosed inquiry slip

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BPA NBP

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

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Where *dry compressed air* is essential, Schramm Industrial Air Compressor and Aftercooler make a perfect combination. Operates with minimum consumption of water. Circulation of cooling water through aftercooler and compressor permits water to be used twice. Full details in free Schramm Catalog SSB-56. Write for your copy.

Schramm, Inc.

MANUFACTURERS OF AIR COMPRESSORS

700 North Garfield Avenue West Chester, Pa.

For more details circle NED-33 A7 on enclosed inquiry slip

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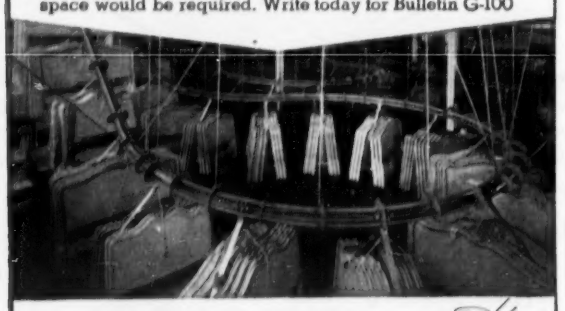
solve 3 handling problems

• STORES BEDS OVERHEAD • PROTECTS FINE FINISH • FURNISHES MOVING DISPLAY

Landahl Chainless Conveyors solved this three-sided problem easily. Four conveyors each 440' long permit overhead storage of head and foot sections of beds. Buyers make their selections from the moving display racks. Each Landahl Chainless Conveyor has 110 carriers with a capacity of 400 lbs. designed to protect the fine finish of these products. Normally 10,000 square feet of valuable floor space would be required. Write today for Bulletin G-100



LANDAHL Chainless CONVEYORS

THE LANDAHL CONVEYOR CO., 13116 Athens Ave., CLEVELAND 7, OHIO

A SUBSIDIARY OF THE AMERICAN MONORAIL COMPANY

For more details circle NED-29 A7 on enclosed inquiry slip

CHROMALOX

electric cartridge heaters

POSITIVE LEAD WIRE PROTECTION

New special features help Chromalox electric Cartridge Heaters provide longer life and more dependable spot heat. Use where abrasion or steam, oils or moisture limit heater life.

New high strength spring guard protects against stress and vibration. Moisture-resistant flexible brass conduit provides rugged, vapor-tight, drip-proof cover for lead wires.

Get the full story today. Write for Cartridge Heater Bulletin 850.

See other ad on page 78

Edwin L. Wiegand Company

7509 Thomas Boulevard • Pittsburgh 8, Pa.

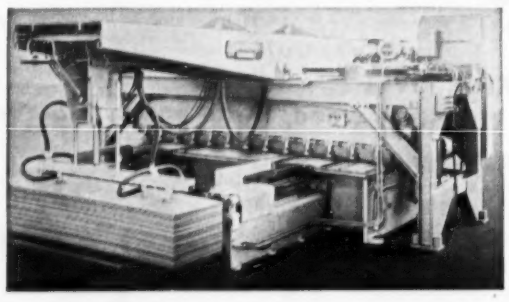
6-700

For more details circle NED-30 A7 on enclosed inquiry slip

AUTOMATIC SHEAR

feeds, cuts, conveys and stacks

Cincinnati Auto-Shear is a standard 1812 series Cincinnati shear combined with automatic handling equipment to form an automated sheared-blank pro-



duction unit. Auto-Shear picks up an unsheared plate, deposits it on the shear table, feeds it into the shear against the back gage, makes the cut, conveys the sheared blanks beyond the rear of the machine, picks them up and stacks them automatically. The power source for the various material handling components can be varied to suit individual application requirements. Made by **Cincinnati Shaper Co.**, Garrard & Hopple Sts., Cincinnati 25, O.

For more details circle NED-31 A7 on enclosed inquiry slip

BALL TRANSFERS

to move or rotate packages in any compass direction—

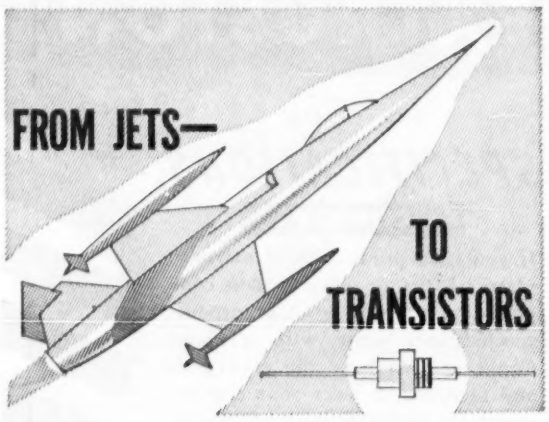
—without lifting of packages. Also frequently used to transfer at right angles without turning packages. Can be adapted to other applications. Separate ball assemblies are available from stock, or complete tables are made-to-order.

Logan offers Ball Transfer units in several different sizes. Further information on request.

LOGAN CO., 215 CABEL ST. LOUISVILLE 6, KY.

Logan Conveyors

For more details circle NED-32 A7 on enclosed inquiry slip



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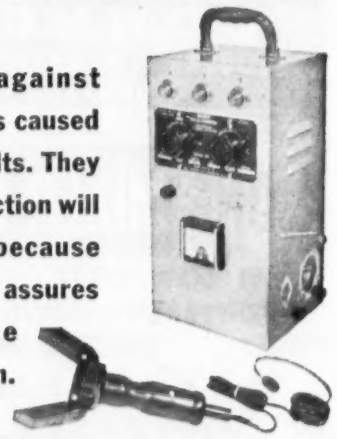
The BRUNT FAULTFINDER

to protect them against costly shutdowns caused by electrical faults. They know that production will run smoothly, because this instrument assures a ground-free electrical system.



The BRUNT FAULTFINDER is a combination ground detector and fault locator for use on normally ungrounded power circuits up to 600 Volts AC/DC, while these circuits are energized. It is lightweight and portable, for one man operation.

Put a Brunt Faultfinder to work for you! Guaranteed for one year.

A FEW USERS OF THE BRUNT FAULTFINDER ARE:

American Can Co.
Bendix Aviation Corp.
CBS Hytron
Fairchild Engine & Airplane Corp.
Ford Motor Co.
General Electric Co.
International Paper Co.
Raytheon Mfg. Corp.
Republic Aviation Corp.
Socony-Vacuum Oil Co.
United Aircraft Corp.

Send for free, illustrated 12-page booklet.

PARR MANUFACTURING CORP.

48 Hale Street
Cranford, New Jersey

For more details circle NED-34 A7 on enclosed inquiry slip

WHERE R-B PUNCHES Cut Your Costs . . .

• IN DIE DESIGNING

. . . you save "board time" by working with the standardized R-B concept of punches, die buttons, punch retainers and die button retainers. R-B standardized equipment reduces drafting time to cut your costs.

• IN DIE CONSTRUCTION

. . . you save "building time" because R-B punches, die buttons, punch retainers and die button retainers are furnished completely finished. R-B saves skilled die-maker's time to cut your costs.

• IN DIE OPERATION

. . . you save "press time" because R-B punches and die buttons are instantly removed and replacements quickly inserted. Inherent accurate alignment and positive locking keep press down-time at a minimum to cut your costs.

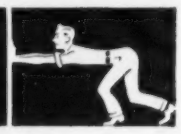
Use R-B Engineering Service for Your Tough Piercing Problems

RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
DEPT. 75 • 26482 CAPITOL AVE. • DETROIT 39, MICHIGAN

Also Produced in OTHER ALLIED PLANTS
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

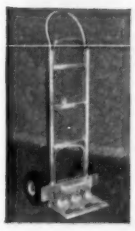
▲ For more details circle NED-35 A7 on enclosed inquiry slip ▲

PUSH PUSH PUSH
You Pay Them to PUSH!



It's only common sense to use THE LIGHTEST EQUIPMENT to handle heavy loads. Save time—save manpower—save money—and reduce accident risk . . . Make the work easier for your employees—they'll be happier, and will do more for you. Equip your material handlers with:

Pusharound® MAGNESIUM HANDLING EQUIPMENT
made of Magnesium, lightest of metals



PUSHAROUND HAND TRUCK weighs only 20 lbs. Nose plate on Pusharound hand truck will not break. It's forged—not cast. Side rails, yokes, axle brackets are special B & P designed extrusions. Special wheel guards prevent damage to anything you handle.

PLATFORM TRUCK weighs only 65 lbs., has many uses. Rugged service has been proved in factories, warehouses, terminals, wholesale and retail stores.

BIN TRUCK weighs only 43 lbs. Strong as comparable wood and steel; gives long service life, minimum maintenance, is easy on your floors.

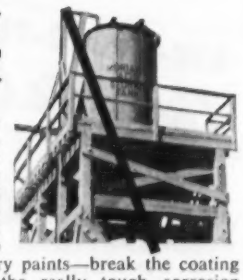
What "push equipment" do you need? B & P makes many types. For further information, write for Pusharound catalog.

BROOKS & PERKINS, INC.
1928 W. Fort St., Detroit 16, Mich. • Dealers in Principal Cities

▲ For more details circle NED-36 A7 on enclosed inquiry slip ▲

BREAK the Coating Barrier

PROVE IN YOUR OWN PLANT
. . . tough, elastic GACO N-700 Neoprene protects where other coatings fail . . .



Protect plant structures and equipment against corrosive fumes, splash, and spray with GACO N-700 liquid neoprene maintenance coating. GACO N-700 gives lasting protection at *lower* applied cost . . . self cures to form a tough elastic protective coating. Stop coating and recoating with ordinary paints—break the coating barrier—use GACO N-700 for the really tough corrosion situations.

Here's proof that GACO N-700 provides protection under severe corrosive conditions:

> **A chemical processing plant in Northern New Jersey** found that ordinary maintenance paints lasted less than six months because of highly corrosive fumes plus salt ocean air. GACO N-700, used for exterior coating of storage tanks, pipe lines, ladder and steel work, *is still serviceable after five years.*

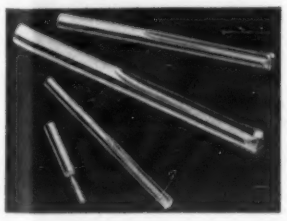
There's a GACO protective coating for every industrial need that gives results far surpassing those provided by ordinary coatings. Write for details.

THE MARK OF CORROSION PROTECTION
GATES ENGINEERING COMPANY
Wilmington 99, Delaware
PIONEER LEADER IN PROTECTIVE COATINGS

Authorized Distributors in principal cities U.S.A. • Australia • Belgium • England • Finland • France • Israel • Japan • Norway • Okinawa • Philippine Islands • Puerto Rico • Sweden. In Canada: Gaco Products Ltd., Brantford, Ontario.

▲ For more details circle NED-37 A7 on enclosed inquiry slip ▲

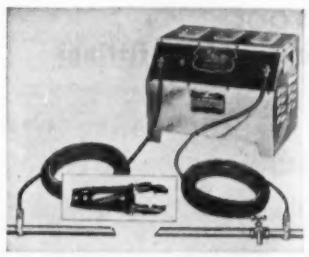
HARD-MATERIAL DRILLS
1/16 to ¾-in. sizes are stocked



Hardened ferrous materials with a rockwell range of C 40 to C 65 can be drilled readily with Hi-Brinell drills which are available from stock in sizes from 1/16 to ¾-in. Sizes to ⅛-in. have a carbide insert brazed to a cylindrical tool steel shank. Larger sizes have carbide tip brazed to a tool steel shank having a straight flute. Made by **Ace Drill Corp.**, Adrian 7, Mich.

▲ For more details circle NED-38 A7 on enclosed inquiry slip ▲

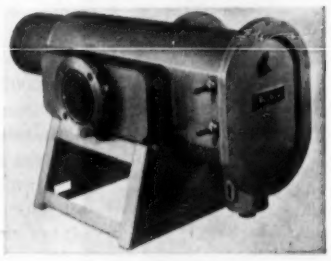
PIPE THAWING UNIT
also used to solder and braze



Versatility of the Therm-O-Tron Pipe thawer has been improved so that the unit can now be used with a heating attachment for sweating together copper pipe and tubes. For thawing, unit is plugged into any 110 or 220 v ac outlet, clamps are attached to the pipe and current turned on. Unit can thaw up to 30 ft of 1½-in. pipe, or longer lengths of smaller pipe in matter of minutes. It is supplied with 40 ft of thawing cable, pipe clamps, and operating instructions. Additional cable allows thawing longer lengths of pipe. Made by **Trindl Products, Ltd.**, Dept. 15, 1811 S. Clark St., Chicago 16, Ill.

▲ For more details circle NED-39 A7 on enclosed inquiry slip ▲

VACUUM PUMPS
six sizes have 92 to 4900 cfm range



Pair of figure-eight shaped rotors which counter-rotate in the pump casing without touching each other or the pump casing is basic mechanism of line of Roots type vacuum pumps. Six standard sizes cover maximum ranges from 92 to 4900 cfm. Motors of quiet, vibration-free units operate within the vacuum, eliminating need for shaft seals. Example of speed of operation is shown by the 39 x 20 x 22-in. size which has a throughput of 10,400 micron-cfm at 10 microns. Made in Germany, pumps are available from **Consolidated Electrodynamics Corp.**, Rochester Div., 1775 Mt. Read Blvd., Rochester 3, N. Y.

▲ For more details circle NED-40 A7 on enclosed inquiry slip ▲

Aftercooler and Cyclone Separator designed for cleaner, dryer compressed air

The Adams Aftercooler and Cyclone Separator are designed to efficiently condense and remove water from compressed air and process gas. Condensed moisture and entrained dirt and oil are subsequently removed in a cyclone type separator. This unit is scientifically designed for maximum removal efficiency over a wide range of flow rates.

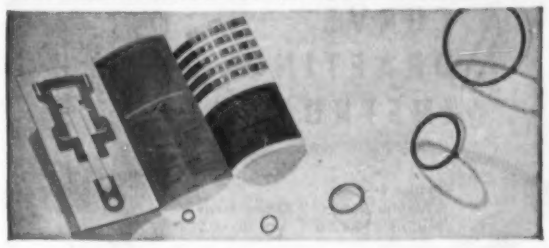
For normal use, units are available to cool gases to within 10° F of the temperature of the cooling water. Specially designed units are available to permit a 2° F approach to cooling water temperature, for application where low moisture content is critical.

Adams Aftercoolers and Separators are available from stock to handle 20 - 40,000 cfm with 10° cooling and 25 - 19,200 cfm where it is necessary to cool within 2° F of the cooling water. Special units can be supplied to suit an unlimited range of requirements. In all cases, a pressure drop of ½ psi is assumed at a maximum working pressure of 150 psi.

This wide range of sizes enables the cost-cutting application of Adams Aftercoolers and Separators in virtually all industrial application. For further information on how R. P. Adams' units will solve your compressed air problems and save you money, write today for Bulletin 711. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *ADVT.*

▲ For more details circle NED-41 A7 on enclosed inquiry slip ▲

NOW! FREE SAMPLES OF LOW-COST RUBBER O-RING OF ± .002" TOLERANCE



I-M'd by Minn. Rubber to resist wear longer

ADVANTAGES: No back-rinding or "flash". No trimming blemishes at parting line. M.R. O-ring tolerances within ± .002 inch. Consistent from piece to piece. Longer flexing life. Tougher structure. Smooth surface.

SAVINGS: Low initial cost. 100% inspection and strict quality control save replacement costs. On-time deliveries save expediting costs, too.

"I. M.": Abbreviation for exclusive modern rubber *injection molding* process originated by Minnesota Rubber, world's largest mfgr. of rubber O-rings. Makes above advantages possible.

FREE SAMPLES: Available in all standard sizes. Technical data included. Just write . . .

MINNESOTA RUBBER and GASKET COMPANY, Dept. 608
Originators of modern rubber injection molding
3630 Wooddale Ave., Minneapolis, Minn.

▲ For more details circle NED-42 A7 on enclosed inquiry slip ▲

Simple—Accurate—
WEIR METERS
for Waste Measurement

● Float-and-cable Weir Meters developed by Foxboro offer simple, accurate measurement of liquid flow. Widely used in sewage, chemical processes, and industrial waste disposal.

The Foxboro Weir Meter is extremely simple. Operates through motion of float to measure head through V-notch, rectangular or Cippoletti weirs—or Parshall flumes. Motion is transmitted by cable to accurate recording or integrating mechanisms. Direct-reading, uniform flow scale—copper or plastic-covered floats.

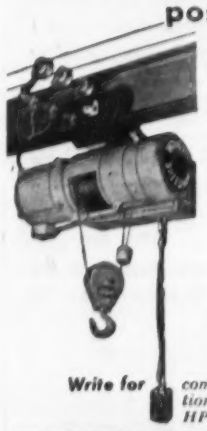
Write for detailed information. **The Foxboro Company, 661 Neponset Ave., Foxboro, Mass., U. S. A.** Also Montreal, Canada. Branches in principal cities.

FOXBORO Reg. U. S. Pat. Off. WEIR METERS

▲ For more details circle NED-43 A7 on enclosed inquiry slip ▲

ACCO products **The WRIGHT Hoists for Dependability**

NOW! a 2-Speed Frame 1 Hoist permits precise, gentle positioning of work



Compare the advantages of this WRIGHT Frame 1 Electric Hoist with other types—

2 Speeds • A fast lifting and lowering speed—and a slow speed (1/4 the rate of the fast speed) for precise, gentle positioning of work—accomplished by use of 1800/450 RPM motors.

Flexibility • Travel on rail or jibs is limited only by the availability of electrical service.

Service Availability • Failure of power source is quickly and easily remedied for individual electric hoists.

Maintenance • Little maintenance required and this is easily handled on WRIGHT Hoists.

Write for *complete information on this sensational new WRIGHT 2-Speed, Fractional HP Motor Wire Rope Electric Hoist*

ACCO **Wright Hoist Division**
AMERICAN CHAIN & CABLE
York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.
Better Value

▲ For more details circle NED-44 A7 on enclosed inquiry slip ▲

ADJUSTABLE CURVE DRAFTING INSTRUMENTS

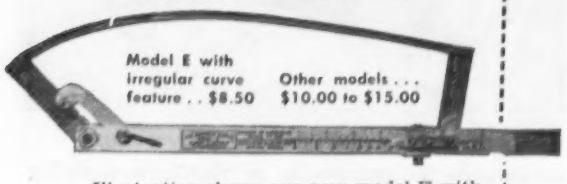


Illustration shows our new model E with one example of irregular curve adjustment. Accurate circular arc curves of any radius greater than 8" are also obtainable. Calibrated scale indicates degree or actual radius of such curves.

Our instruments have met the requirements of accuracy and usefulness, after thorough trial, at more than 1000 drafting rooms and engineering offices.

Write today for complete literature.

ALBERT G. DANIELS
109 Chalmers St., Winnsboro, S. C.

For more details circle NED-47 A7 on enclosed inquiry slip

CUT maintenance, labor costs

INCREASE PRODUCTION!

Coolant fed into a Barnesdril magnetic coolant separator continuously circulates around the drum of powerful permanent Alnico magnets. Swarf, chips, and other ferrous particles are removed. Coolant is cleaned by the separator, thus preventing machine downtime and improving finishes.

a user reports:

"Our surface grinder (above) required 6 hours of cleaning and 5 gallons of coolant per week. With the Barnesdril magnetic separator installed, there has been no downtime in 4 months and coolant used has dropped to 1 gallon per week. *We cut our grinding costs $65.50 per week.* Paid for the installation in less than 2 months."

These savings are typical. Call your Barnesdril Factory Representative today or write for Catalog 350.

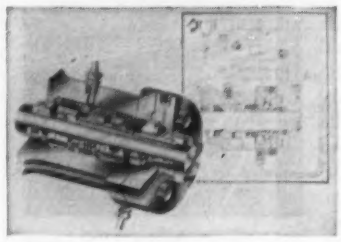
* Barnesdril Magnetic Separator #4 installed on a Blanchard No. 18 Surface Grinder.

50th year

FILTRATION DIVISION
BARNES DRILL CO.
866 CHESTNUT STREET • ROCKFORD, ILLINOIS
DETROIT OFFICE: 3419 South Telegraph Road

For more details circle NED-48 A7 on enclosed inquiry slip

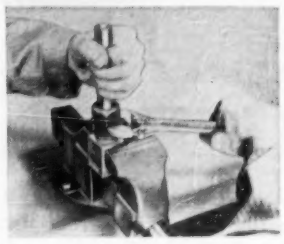
MECHANICAL SEAL for high pressure boiler feed use



Designed for long service life, this boiler feed pump mechanical seal eliminates feed water leakage in this and other high temperature water services. Closed circulating system provides cool water in the sealing chamber to give long seal life. Seal is engineered for a particular operation, including adaptation to pump design and piping arrangement. Packaged unit is easily installed without major stuffing box alteration. Made by **Crane Packing Co.,** Dept. NDC, 6400 Oakton St., Morton Grove, Ill.

For more details circle NED-49 A7 on enclosed inquiry slip

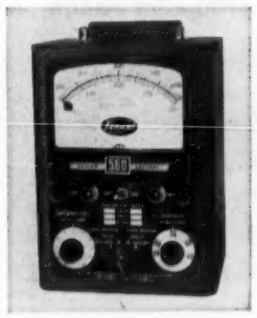
FERRULE SETTING TOOL for use with flareless tube fittings



Mounted in a vise, the Ferulset tool expedites the presetting of flareless type tube fitting ferrules onto the metal tube. Presetting in a vise permits easy application of wrenching action and encourages visual inspection for adequate ferrule "bite." Hardened steel tool is offered in sizes for fittings used with ¼ to 2 in. OD tubing. Made by **Parker Appliance Co.,** Tube & Hose Fittings Div., Dept. NE, 17325 Euclid Ave., Cleveland 12, O.

For more details circle NED-50 A7 on enclosed inquiry slip

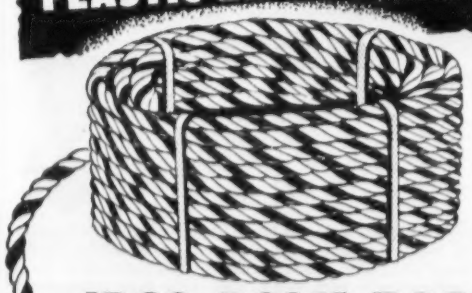
TEMPERATURE CONTROLLERS dual models are thermistor actuated



Operating ranges of 200-600° F and 100-300° F (model 56006) and −100-50° F and 0-150° F (model 56007) are available in two dual-range thermistor-actuated temperature controllers added to Series 560. Instant switching of ranges without recalibration is possible. Accuracy is within 0.25-per cent over their entire range. Connecting leads can be up to 200 ft long. Thermistor sensing elements operate for several months without recalibration. On-off (two position) control and time-modulated proportioning control modes are available. The single-pole double-throw power relay is rated at 10 amp 115 v ac. Made by **Fenwal Inc.,** 70 Pleasant St., Ashland, Mass.

For more details circle NED-51 A7 on enclosed inquiry slip

HIGH VISIBILITY PLASTIC BARRIER ROPE



IPCO POLY-ROPE®

Triple strand rope of polyethylene plastic; two strands of yellow, one of black. Immediately identifies a restricted area in that it carries out the standard CAUTION colors. Tensile strength over 1200 pounds. No sag or stretch. Durability for long service life. Used and recommended by all types of industry.

WRITE FOR BULLETIN NO. 93

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-52 A7 on enclosed inquiry slip

Completely Packaged
PERECO *Electric* FURNACE

for laboratory and shop uses

2500° F. for normal operation

3000° F. for short period

"CB" Series

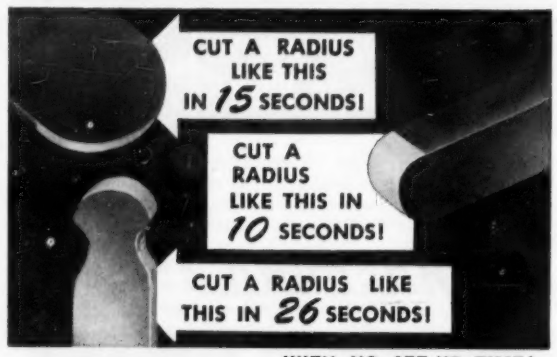
Simple to install and easy to operate, this CB-55 (also larger sizes) handles exact laboratory and pilot plant operations, and other heat-treating work requiring close control of extremely flexible heat cycles. Size: 32" d. x 33" w. x 64" h., with loading area 10" d. x 8" w. x 6" h. Uniform heat from silicon carbide elements over and under the chamber. All controls on front panel: automatic temperature controller, input meter, 36-tap auto-transformer with switch interlock, cut-off switch, and safety pilot-light. Wedge-fit counterbalanced door. 230-v., 60 cyc., 1 ph. or 3 ph. Variable control from 11 KW down to 3.5 KW. Atmosphere connections optional.

PERECO also makes standard and special furnaces for temperatures from 450° F. to 5000° F.

Write Today for Bulletin

PERENY EQUIPMENT CO.
Dept. G, 893 Chambers Rd.,
COLUMBUS 12, OHIO

For more details circle NED-53 A7 on enclosed inquiry slip



WITH NO SET-UP TIME!

RADII
RADIUS CUTTING MACHINE

Radii Model II is a specialized milling machine designed to cut a radius on square, rectangular, flat or round material any size up to 1¼" thick by 2½" wide with uniform accuracy. Designed to be operated by any unskilled employee in your plant.

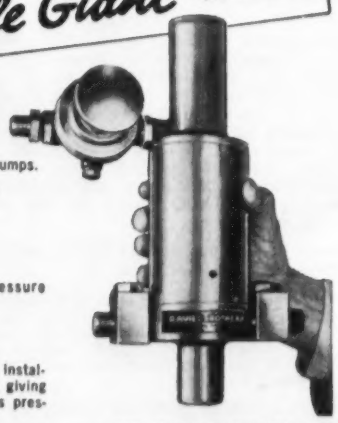
Write today for further information.

SPECIAL MACHINERY COMPANY, INCORPORATED
WINSTED, CONNECTICUT

For more details circle NED-54 A7 on enclosed inquiry slip

8 reasons why you should switch to–

AIR-HYDRO-PUMP Jr. *"The Little Giant"*
FOR PRESSURE TESTING 10,000 PSI (with air-100 psi)



1. Operates more quickly and efficiently than hand pumps.
2. A turn of the wrist gives instant pressure.
3. Saves man hours.
4. Eliminates fatigue.
5. Maintains constant pressure without air consumption.
6. Ideal for testing valves and fittings.
7. Economical for multiple installation at test points, thus giving wide range of simultaneous pressures.
8. Ideal as source of hydraulic power for operating small presses, jacks, rams, clamping devices and other hydraulic mechanisms.

SIX JUNIOR MODELS
100 PSI TO 10,000 PSI
$185.00
F.O.B., N.Y.C.

Also Complete Range of 35 Standard Models, Single or Double Acting

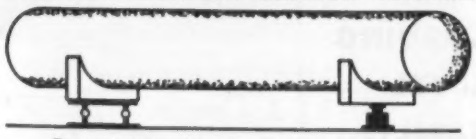
DAVIES BROS. 120 WALL ST., N.Y. 5, N.Y.

For more details circle NED-55 A7 on enclosed inquiry slip

"FOOLPROOF" TANK WEIGHING WITH EMERY LOAD CELLS

'rolling ball' head

COUNTERACTS OFF-CENTER LOADING



The tank shown above is one of the simplest arrangements of an Emery Weighing System utilizing the new "Rolling Ball" Load Cell. It consists of one Emery Cell to support the front end of the tank and two Emery Ball Pivot Assemblies or some other support such as an "I" beam for the back of the tank.

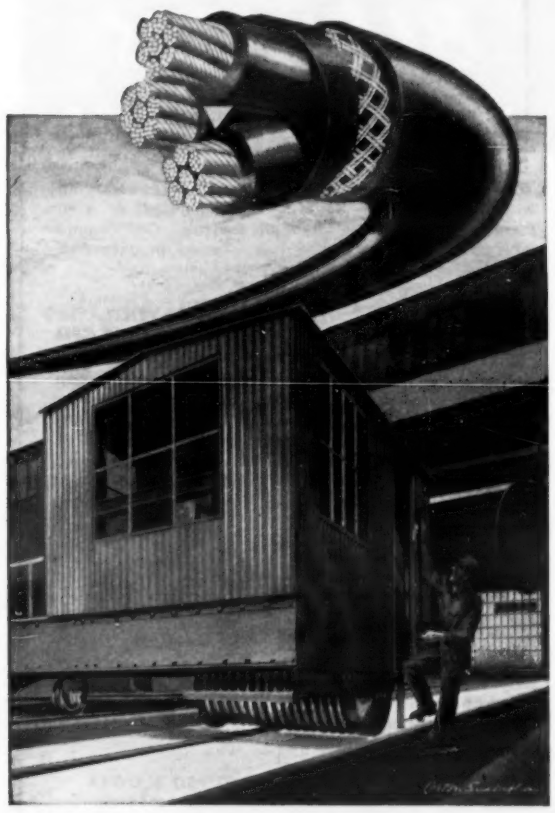
The hydraulic pressure in the cell actuates an indicator, recorder or controller which is so calibrated that it reads directly the weight of the tank contents.

Note: This arrangement is only one of fifteen discussed in our new Bulletin 561. If you have a tank weighing problem, send for Bulletin 561 today.

THE A. H. EMERY COMPANY

Pine Street • New Canaan, Connecticut

For more details circle NED-56 A7 on enclosed inquiry slip



Still in Service after 29 years, 24 hours a day...

and without a single splice, patch or power failure!

This record was made by a 175-foot length of U. S. Royal portable cable installed in 1927 as a source of power for a traveling agitator in a cement plant*. The cable has been fully exposed to weather for the entire 29 years. The agitator moves back and forth the length of the slurry basin, and the cable is simultaneously taken up and paid out by a revolving drum.

To "U. S." engineers, performances such as this are not too unusual. They stem from the determination of "U. S." technicians to produce only a *quality* product. This is possible because "U. S." is the only wire manufacturer to grow its own natural rubber, make its own synthetic rubber and its own plastics, plus unmatched research and manufacturing facilities.

Call on "U. S." to solve any wiring problem. Write United States Rubber, Rockefeller Center, New York 20, N. Y.

*Penn-Dixie Cement Corp., Tenn.

US RUBBER — Electrical Wire & Cable Department

United States Rubber

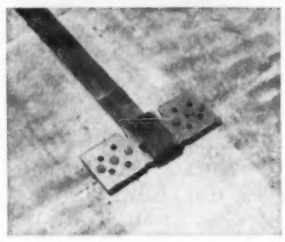
For more details circle NED-57 A7 on enclosed inquiry slip

ACOUSTICAL ENCLOSURE allows undisturbed telephone use

Disturbances created by many simultaneous telephone conversations and inter-desk interference in large offices can be eliminated with this general utility acoustical enclosure. Phone conversation is confined to enclosure to make it confidential and error-free. The all-steel enclosure employs the same sound absorbing material used in the Hear-Here Acousti-Booth. It is finished in silver-gray hammerloid. Made by **Burgess-Manning Co.**, Architectural Products Div., 5970-C Northwest Highway, Chicago 31, Ill.

For more details circle NED-58 A7 on enclosed inquiry slip

STRAPPING ANCHOR PLATES secure loads in boxcars



Used with heavy duty steel strapping, model NSFA-114 anchor plates prevent any load movement in boxcars having nailable steel flooring, perforated steel plate reinforced floors and those where strapping must be attached to the wall at an angle. High holding power is possible because anchor point is close to center of plate, and provision is made for use of several nails in attaching it to the surface. Made by **Signode Steel Strapping Co.**, Dept. NED, 2600 N. Western Ave., Chicago 47, Ill.

For more details circle NED-59 A7 on enclosed inquiry slip

STEAM TRAP for ¾ and 1-in. lines

Applications requiring high discharge capacity at pressures up to 25 psi are served by the Float - Thermostatic steam trap. Discharge valve is actuated by line pressure rather than by float buoyancy. Stainless steel valves and seats need not be changed for any pressure within trap's range. All internal mechanisms are attached to easily removed cover plate. Unit fits into existing piping layouts, is light in weight and is available for ¾ and 1-in. lines. Made by **W. H. Nicholson & Co.**, 162 Oregon St., Wilkes-Barre, Pa.

For more details circle NED-60 A7 on enclosed inquiry slip

NEW METHOD ROLL MARKER SLASHES COSTS!

eliminates secondary O.D. marking operation

- for screw machines, lathes, etc.
- completely automatic • easy to set up
- quick roll die change • interchangeable dies
- adjustable impression depth
- heavy-duty construction

Write today for Bulletin 500-C
Inquiries from Sales Reps. invited

NMSS SINCE 1931

NEW METHOD STEEL STAMPS INC.

147 JOS. CAMPAU • DETROIT 7, MICH.

For more details circle NED-61 A7 on enclosed inquiry slip

FOR LUBRICATION APPLICATIONS IN THE "FRINGE AREA" . . .

specify **MOLYKOTE® LUBRICANTS**

Extreme pressure or boundary lubrication, without the participation of solid lubricants, is practically impossible.

This basic concept is the foundation upon which MOLYKOTE Lubricants have been built.

Whether we rely on solid lubricants which are already on the surface in the form of thin natural oxide films, or whether we take the necessary steps to introduce these solids on the surface or manufacture them with chemical additives, is immaterial.

To improve on nature's own defensive solids by alloying or supplementing them with more highly qualified solid lubricants is the work of MOLYKOTE, Industry's Most Versatile Lubricant.

Send today for literature.

THE ALPHA MOLYKOTE CORP.

Main Factories: 65 Harvard Avenue, Stamford, Conn.
71 Arnulfstrasse, Munich 19, Germany

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For more details circle NED-62 A7 on enclosed inquiry slip

PRINCO DIAL THERMOMETERS

HAVE FULLY ADJUSTABLE DIAL AND POINTER

for easy reading in any location

Sturdy, sensitive, accurate PRINCO 4" Dial Thermometers are made so that pointer and scale can be set to any desired position. This permits the reading axis of the thermometer to be vertical regardless of the position of the instrument. In addition, these smooth operating, precise thermometers are:

- accurate to 1% of range
- moisture and fume proof
- made in bottom connected and back connected styles with stainless steel stems and connector nuts

Complete adjustment of pointer and scale means reading axis is always adjustable to 12 o'clock regardless of stem angle.

PRINCO Dial Thermometers are also available in 2" and 3" diameter, fume and moisture proof case of all stainless construction and adjustable dial only.

Write, wire or call for information and catalog.

PRECISION THERMOMETER & INSTRUMENT CO.

1434 Brandywine Street Philadelphia 30, Pennsylvania
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For more details circle NED-63 A7 on enclosed inquiry slip

World's Strongest Shelving SUPPORTS TREMENDOUS WEIGHTS

with no sag . . . no sway . . . no buckling

Rugged Republic Wedge-Lock Shelving is ideal for storing heavy, cumbersome equipment. Exclusive joint design results in tighter joints as weight increases. Result: high stacking for maximum use of overhead space.

Your storage operation will be smoother, faster, more efficient when you specify Wedge-Lock, made at Republic's Berger Division. Assembles quickly to accommodate specific needs. Call your nearest Berger sales office for planning help. Or write for literature.

REPUBLIC STEEL
BERGER DIVISION
1022 Belden Ave., Canton 5, Ohio

For more details circle NED-64 A7 on enclosed inquiry slip

The respirator whose 40 sq. in. double filters provide double protection against pneumoconiosis and silicosis producing dusts. Double comfort in breathing, too! Light, less than 5 ounces—compact—sturdily constructed. U. S. Bureau of Mines approved. Order sample today, $3.00 postpaid.

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South Bend 14, Indiana

"Respirators for Industry since 1894"

For more details circle NED-65 A7 on enclosed inquiry slip

HERC-ALLOY®
...the original alloy steel chain

TO SERVE YOU BETTER:
Herc-Alloy chain assemblies can now be ordered with either of two types of coupling links.

Hammerlok®
the "do-it-yourself" reusable coupling link that enables you to assemble or rebuild your own Herc-Alloy sling chains with all components furnished by your local distributor.

● Herc-Alloy sling assembled with welded, heat treated alloy steel coupling link.

● Herc-Alloy sling assembled with heat treated, alloy steel Hammerlock coupling link.

CALL YOUR CM CHAIN DISTRIBUTOR or write for helpful literature on alloy chain assembly, care, use and inspection.

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TONAWANDA, NEW YORK
Regional Offices:
NEW YORK • CHICAGO • CLEVELAND
In Canada: McKinnon Columbus Chain Limited, St. Catharines, Ontario

For more details circle NED-66 A7 on enclosed inquiry slip

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COUNTERSINKS
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4 POSITION DRILLING & TAPPING TURRET HEAD

Saves Set-up Time • Saves Production Time

With Quadrill you can use four drilling or cutting tools on one drill press by simply indexing for each tool. Precision built for rugged duty—long service. Specify make and size of drill press when ordering QUADRILL.

CHICAGO QUADRILL Company
1856 BUSSE HIGHWAY • DES PLAINES, ILL.

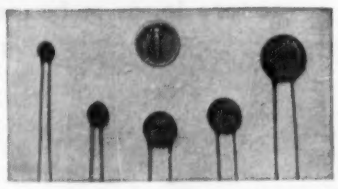
For more details circle NED-67 A7 on enclosed inquiry slip

HYDRAULIC LIFT TABLE raises 500-lb loads 18 in.

Lightweight Lexco 500 hydraulic lift table can be used as an adjustable work bench; welder's positioner; leveling table for presses or conveyors; or to lift and move castings, dies and tools. Table measures 30 x 20 x 30 in. overall and can raise 500-lb loads from 18-in. to 48-in. height. Hydraulic unit is hand operated, but is available for foot operation. Pedal-actuated floor lock anchors caster-mounted table in position. Made by **Lexco Engineering & Mfg. Corp.**, Dept. NED-500, Box 161, Colmar, Pa.

For more details circle NED-68 A7 on enclosed inquiry slip

SUBMINIATURE CAPACITORS have high dielectric constant



Rated for 50 v dc, series of subminiature high dielectric constant Cera-mite capacitors is suited for use in transistor radios and similar applications. They are available in volume in standard capacitances of 0.005, 0.01, 0.025, 0.05 and 0.1-microfarad. Made by **Sprague Electric Co.**, 183 Marshall St., North Adams, Mass.

For more details circle NED-69 A7 on enclosed inquiry slip

FLASK HEATERS accommodate 250 to 2000-ml flasks

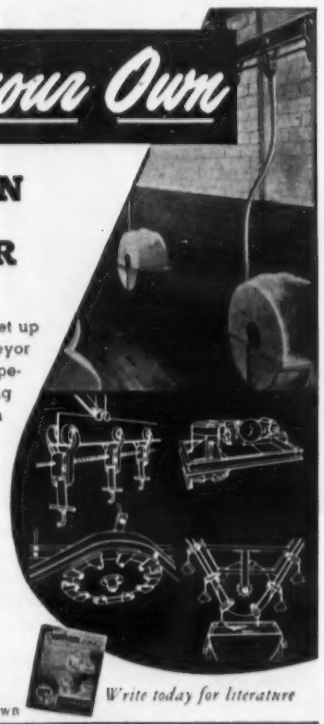
Flasks of 250, 300 and 500 milliliters with both round and flat bottoms can be accommodated by model 500 Temco flask heater. Model 2000 heater holds 1000 and 2000-ml flasks. Both models have top temperature of about 1000° F. Flask is suspended within heating chamber in a Monel mesh basket and is heated evenly by radiation. Interchangeable basket sections lift out to accommodate the size of flask desired. Heaters can be operated with a Powerstat or similar control, or with the model 700 on-off type current input controller. Latter provides stepless temperature control and compensates for line voltage fluctuations. Made by **Thermo Electric Mfg. Co.**, 484 Huff St., Dubuque, Iowa.

For more details circle NED-70 A7 on enclosed inquiry slip

Make your Own

BUSCHMAN CABLE CONVEYOR SYSTEM

Now . . . your crew can set up an overhead cable conveyor system tailored to your specific requirements using pre-engineered Buschman standard components. Efficient Bush-Lock and Snub-Lock designs are available in ¼" and ⅜" sizes . . . lightweight, all-bolted construction . . . easily rearranged to meet changing needs.



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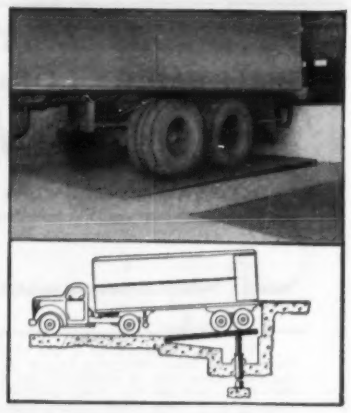
C-159-EWR

Write today for literature

THE E. W. BUSCHMAN CO.
4482 Clifton Avenue, Cincinnati 32, Ohio

For more details circle NED-71 A7 on enclosed inquiry slip

BRING TRUCK BEDS TO LOADING LEVEL EASILY... QUICKLY



with a GLOBE TRUCK LEVELER

Globe Truck Levelers position the rear of a vehicle flush with loading platform by raising or lowering the rear wheels. Level loading is fast, safe and economical.

The unit consists of a sturdy hinged ramp installed at ground level, powered by two hydraulic rams operated in unison. Pushbutton or lever control conveniently located on dock for quick action. Size is 10 x 12 feet . . . lifting capacity is 40,000 lbs.

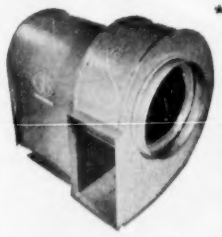
GLOBE TRUCK LEVELER®
PLANTS: DES MOINES — PHILADELPHIA — LONG BEACH, CAL.

Write today for more information to Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Pennsylvania.

For more details circle NED-72 A7 on enclosed inquiry slip

BLOWERS FOR EVERY INDUSTRIAL USE

Whether you want to move a lot of air—or a little, whether you move hot air—contaminated or clean, there's a GENERAL blower for the job. Get complete information on the full GB line. Tested in accordance with NAFM standards.

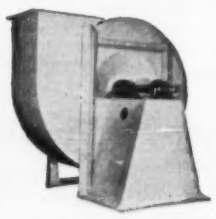


*WEATHERPROOF VENTLATING
SET-100 CFM to 23,000 CFM
Write for Bulletin UVS 103

For wide range, low cost ventilating. Low and medium ranges of air capacities. Quiet, efficient operation. Belt driven units in forward curve and backward blade wheels. Also as direct drive unit.

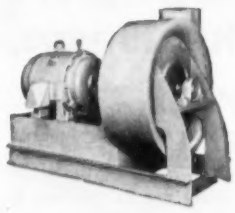
INDUSTRIAL EXHAUSTER
700 to 55,000 CFM
Write for Bulletin MX 104R

No. 90 Industrial exhauster completely rubber coated inside and out for use in chemical industry applications. General offers coated or special alloy equipment for use in chemical process equipment as well as for removal of corrosive fumes.



TURBO BLOWER
4 oz. to 48 oz.
70 CFM to 6000
Write for Bulletin CB 108R

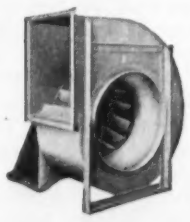
Many and varied applications. Maintains constant pressure within unit range. Power consumption proportionate with volume of air delivery. Durable for continuous industrial duty. Can be gas sealed. Type S single wheel and type M multi-wheel units.



*BACKWARD BLADE EXHAUSTER
680 CFM to 250,000 CFM
Write for Bulletin BB 102

Both single and double inlet. Non-overloading characteristic. Suitable for industrial process applications as well as ventilating. Available in coated or special alloy construction for corrosive and heat application.

* Certified ratings authorized by NAFM.



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Over 20 years of engineering and manufacturing experience

AMERICA BREATHES EASIER with "Lungs for Industry"

GENERAL BLOWER COMPANY
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For more details circle NED-73 A7 on enclosed inquiry slip

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Blast Cleaning
CABINETS

RUEMELIN Blast Cabinets are practical for a great variety of cleaning operations. They are extensively used to remove heat-treating scale and to clean sub-assemblies in metalworking shops, foundries, aircraft factories, etc. Built in many sizes. Furnished complete with dust control equipment. Write for Bulletin 32-B.

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Manufacturers and Engineers SAND BLAST AND DUST COLLECTING EQUIPMENT, WELDING FUME COLLECTORS

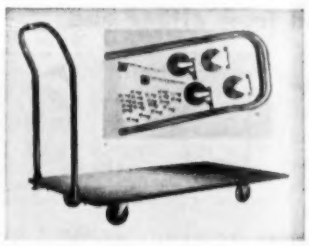
▲ For more details circle NED-74 A7 on enclosed inquiry slip ▲

NAMEPLATE APPLICATOR
rapidly activates adhesive

Unskilled personnel can apply nameplates in less than 1 second each with the Triactivator, a mechanical nameplate activating machine. Good adhesive characteristics and high speed application result from its use. Powered by a 115-v ac motor, it handles nameplates from 0.002-in. thick. Size is 12 x 9 x 7 in. Made by **Miller Dial & Name Plate Co.,** Dept. NED, 4400 N. Temple City Blvd., El Monte, Calif.

▲ For more details circle NED-77 A7 on enclosed inquiry slip ▲

PLATFORM TRUCK KIT
turns piece of plywood into a truck



All parts except the platform are included in this platform truck kit, leaving the buyer his choice of platform size and material to meet his particular needs. Simple instructions facilitate assembly. Kit contains two ball bearing race swivel casters, two matching rigid casters, handle attachment brackets, tubular steel handle and attachment hardware. Made by **Milwaukee Truck Co.,** Dept. NED, 250 N. Twelfth St., Milwaukee 3, Wis.

▲ For more details circle NED-78 A7 on enclosed inquiry slip ▲

EMERGENCY LIGHTING UNIT
minimizes battery maintenance

In addition to operating instantly upon failure of normal power, model A Lightguard emergency lighting unit automatically prepares itself for next blackout. Immediately following emergency discharge, light recharges its battery at high rate, after which a trickle-rate is maintained. Lead-acid battery requires addition of water only two or three times a year and is equipped with colored pilot balls which indicate approximate state of charge. It has molded polystyrene case and can furnish current to 25-w sealed-beam lamp for 8 hours, to two lamps for 3¼ hours and to three lamps for 1½ hours. Made by **Electric Storage Battery Co.,** Exide Industrial Div., Dept. AL, Box 8109, Philadelphia 1, Pa.

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NOW! 1 MAN CAN!

New Sterling one-man drum lift makes it easy to lift drums from any position . . . even stack them two high! SAFE! PORTABLE! EASY TO USE!

- ★ EASY LOCK GIRDLE
- ★ HEAVY-DUTY HYDRAULIC JACK
- ★ PIVOT FOR ROTATING DRUM TO POUR
- ★ SAFETY LEGS
- ★ RUGGED ALL-STEEL CONSTRUCTION
- ★ ROLLER BEARING CASTERS

Also adaptable for lifting and pouring 13-gal. acid carboy!

Write for complete catalog!

STERLING-FLEISCHMAN CO.
Broomall, Pa.

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ENTIRELY NEW... differently NEW

Built to serve you for its normal life without maintenance

Lodestar is the first truly "heavy duty" version of the small electric hoist. It will serve you without costly maintenance or interruptions in your work schedules.

FLEXIBLE LINK CHAIN

CAPACITIES: from ⅛ to 1 ton. Single and 3 phase. ⅛ ton model weighs only 51 pounds.

PUSH BUTTON CONTROL

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In Canada:
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CM HOISTS AND CHAIN

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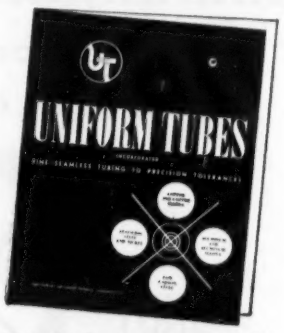
NEW TUBING CATALOG



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Our new catalog is just off press, and a copy is yours for the asking. Contains up-to-the-minute data on Uniform's complete line of fine seamless tubing in aluminum alloys, copper alloys, nickel alloys, stainless and low carbon steel . . . OD's from .625 to .005 in.

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The little giant that does so much

BOLENS

RIDE-a-matic
TRACTOR

3.6 hp and 6.6 hp engines

- ☑ Haul loads
- ☑ Mow lawns
- ☑ Cut weeds
- ☑ Roll turf
- ☑ Grade land
- ☑ Plow and cultivate
- ☑ Plow or throw snow
- ☑ Materials handling

The job list for the RIDE-a-matic is constantly growing. What can the RIDE-a-matic do for you?

Send Postcard for Catalog
BOLENS PRODUCTS DIVISION
Food Machinery & Chemical Corp.
Port Washington 10, Wisconsin

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STOP-WATCH ACTION MAKES THE BIG DIFFERENCE

DUAL-ELEMENT cartridge fuses

- Protects completely against shorts and dangerous overloads
- Stops needless fuse blows safely
- Cuts fuse costs and downtime

ECON Dual-Element Fuses eliminate needless blows, yet assure faster, more accurate protection against shorts and dangerous overloads. The exclusive ECON-Alloy thermo element makes the **big difference.** Instead of going through the usual plastic stage, it changes directly from solid to liquid. With its double stop-watch action, it breaks instantly on shorts. And with its pre-determined delayed timing, it safely handles up to 500% overloads without blowing. In knife and ferrule types: 0 to 600 amperes; 250 and 600 volts. Underwriters' Laboratories, Inc., approved.

Write for ECON Dual-Element Catalog S-60 . . . or full-line Folder.

Ask your Electrical Wholesaler for ECON Dual-Element and other Economy Fuses

ECONOMY FUSES FOR EVERY PURPOSE

ECONOMY FUSE & MFG. CO., 2717 Greenview Ave., Chicago 14, Ill.

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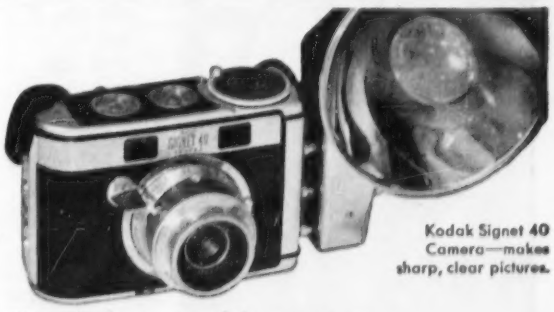

Kodak Signet 40 Camera—makes sharp, clear pictures.

Simple but capable camera for record pictures, 35mm slides

With this precise yet easy-to-use camera you can make excellent *record pictures* (black-and-white or color) of safety hazards, job setups, breakage claims, research projects, maintenance problems. And you can shoot top-quality slides for training lectures, sales talks, or technical discussions.

The Kodak Signet 40 Camera gives you a fine *f*/3.5 lens, and shutter speeds from 1/5 to 1/400 second—yet it's simple to use. It's small enough to slip in your pocket, carry along on field trips. You'll like the brilliant viewfinder coupled with rangefinder in a single window. Price—only $69,* including flasholder and two reflectors (for both popular types of midget bulbs).

FREE BOOKLET gives you full details. Write for it.

**List price, including Federal Tax. Subject to change without notice.*

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Kodak

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THE NEW CHEMICAL FUEL OIL ADDITIVE

★ BURN UP TO 12% LESS FUEL OIL
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CHECK THESE OUTSTANDING *PLUS* VALUES...

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3 ELIMINATE EYE-STRAIN FATIGUE AND INCREASE EMPLOYEE EFFICIENCY
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. . . ALL FOR AN INSTALLED COST ONLY SLIGHTLY HIGHER THAN FOR ORDINARY GLASS!

STRUCTOGLAS "A" . . . a new material with the hardest surface of any reinforced plastic . . . is the most durable, practical and economical new glazing on the market. It is available in all sash sizes . . . green, blue and translucent crystal colors . . . three thicknesses.

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Please send, without obligation, Bulletin SL-51 describing Structoglas for glazing applications.

STRUCTOGLAS
4307 West 35th Street
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NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____
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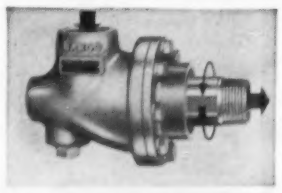
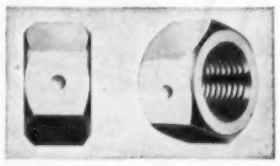
ROTARY JOINT
eight sizes from ½ to 3 in.



Improved type C rotary joint for steam, air, water, oil, gas or alternating hot and cold service can be used in either single flow or two-way syphon flow installations. Made in eight sizes from ½ to 3 in., joint is suitable for steam pressures 0 to 200 psi, or to 400 psi, hydraulic; for temperatures to 450° F, or 500° F in special types; and for ordinary rotating speed. Bearings and seal are self-lubricating, with latter also being self-adjusting for wear. Lengths range from 5⅞ to 12¾ in. Right or left-hand thread on rotating shaft can be specified. Made by **Barco Mfg. Co.,** Dept. J-29, 500 Hough St., Barrington, Ill.

▲ For more details circle NED-86 A7 on enclosed inquiry slip ▲

TWO-WAY LOCK NUT
can be started from either end



Double chamfered two-way lock nut can be started from either end, permitting its feeding and application automatically without selective devices. Locking power is in the body, not at the crown. Pressure applied on opposite side in manufacture gives opposing thread deflection as well as ovalizing in the center. This allows a 180-degree spring for maximum holding power. All-metal nut holds well when bolt ends are flush. Made by **MacLean-Fogg Lock Nut Co.,** 5547 N. Wolcott St., Chicago, Ill.

▲ For more details circle NED-87 A7 on enclosed inquiry slip ▲

DRAFTSMAN'S CHAIR
multiple adjustments made by levers

Cushion on the cast aluminum seat of the Hi-Model 4D-22-T draftsman's chair is 2½-in. thick molded foam latex. Automatic forward-tilt and multiple adjustments are accomplished through levers or knobs. Height adjusts from 22 to 31 in., and the foam cushioned backrest has height and forward-and-back adjustments. Seat and back covers of various materials and colors are easily replaceable. The 19-in. foot ring is also adjustable. The 22-in. spread welded steel base is available with cushioned glides or ball bearing casters. Metal parts are finished in baked enamel of various colors. Made by **Cramer Posture Chair Co.,** Dept. NE-1, 1205 Charlotte St., Kansas City 6, Mo.

▲ For more details circle NED-88 A7 on enclosed inquiry slip ▲

D-R SMALL LOT STAMPING FROM TEMPORARY TOOLS

SOLVES A TOUGH COST PROBLEM

Converting from a casting to a sheet steel stamping reduced this customer's cost to one-tenth his old method.

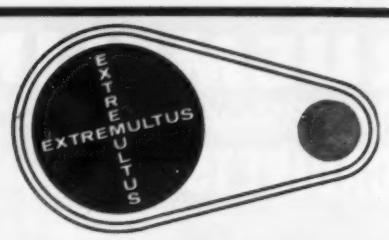
Only 200 piece parts/year were needed, and an annual design change was a further possibility.

Dayton Rogers produced 100 pieces for less than the cost of the tool steel used in making a conventional die for such a part, *with superior results.*

GOT A DESIGN-ENGINEERING PROBLEM? SEND YOUR SKETCH, BLUEPRINT OR PART, PLUS QUANTITY, FOR PROMPT QUOTATION

DAYTON ROGERS Manufacturing Company
MINNEAPOLIS 7E, MINNESOTA

▲ For more details circle NED-89 A7 on enclosed inquiry slip ▲



NO DRIVE TOO TOUGH!

In its first year on the U. S. market,

EXTREMULTUS BELTING,

a laminate of leather and plastic, is out-performing and replacing existing V-belts, chains and flat belts everywhere!

- Speeds up to 10,000 feet per minute!
- Ratios as high as 20:1, with arcs of contact as low as 90°!
- Unexcelled elasticity — soaks up shock!
- From 1/10 to 6000 HP!
- Runs on standard pulleys!
- Greatly reduced bearing loads!
- Freedom from stretch eliminates take-up!
- Widths a fraction of belts replaced!

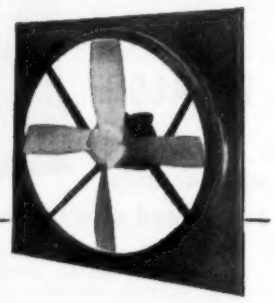
Immediate delivery from stock on standard sizes

Name your drive problem — let EXTREMULTUS solve it! Write *today!*

EXTREMULTUS, INC.
405 Lexington Ave., New York 17, N. Y.

▲ For more details circle NED-90 A7 on enclosed inquiry slip ▲

New fan combines power with quietness



R&M HUNTER

Write for literature and prices on the new R&M-Hunter heavy-duty "Q" Type Fans. Certified air deliveries from 2900 to 10800 CFM. Features include: a totally enclosed single-phase, permanent split capacitor motor; one-piece cast aluminum propeller in modern airfoil design; easily installed heavy steel frame with high-efficiency entrance ring.

HUNTER DIVISION - ROBBINS & MYERS, INC.
2448 Frisco Ave., Memphis, Tenn.

R & M-Hunter "Q" Type Fan

Backed by 75 years' experience

▲ For more details circle NED-91 A7 on enclosed inquiry slip ▲

New Bulletin
FREE FOR THE ASKING FOR YOUR FILES

This all-new technical catalog literature features Sta-Warm compound melting tanks, kettles, pots, accessories, etc. It describes the advantages of "The Sta-Warm Method" of applying electric heat uniformly and efficiently to sidewalls and bottom areas of any shape or size of unit required to heat, melt, convey or dispense melted compounds, soft metals, thermo-plastics, Cerro-alloys, adhesives, etc.

Bulletin Features
- Rectangular tanks
- Cylindrical tanks
- Wax heaters
- Wax droppers
- Compound dispensers
- Solder dispensers
- Agitators
- Multiple Unit assemblies and other Sta-Warm heaters.

Write for your copy today.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

▲ For more details circle NED-92 A7 on enclosed inquiry slip ▲

FREE... Snap-on* INDUSTRIAL TOOL CATALOG

Now...write for this complete, concise and easy-to-use ordering guide for the line of *Snap-on* sockets, wrenches and other tools for industry.

To users of power-driven nut runners and impact wrenches, this book offers an instant answer to every socket need. Every type, every size is tabulated with important dimensions and specifications listed clearly. Also included is the wide selection of *Snap-on* hand tools for plant maintenance work and for assembly operations. This edition obsoletes any previous issue in your files. Write for your copy of Catalog 54-I today.

*Snap-on is the trademark of Snap-on Tools Corporation.

Snap-on Tools FOR ALL INDUSTRY

SNAP-ON TOOLS CORPORATION
8110-A 28th Avenue • Kenosha, Wisconsin

For more details circle NED-93 A7 on enclosed inquiry slip

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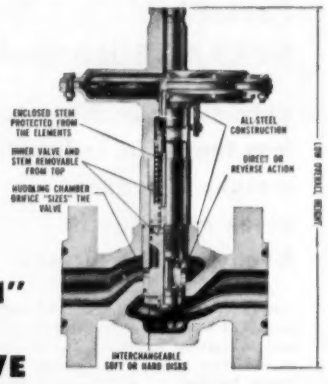
got



TYPE "DCB-1" MOTOR VALVE

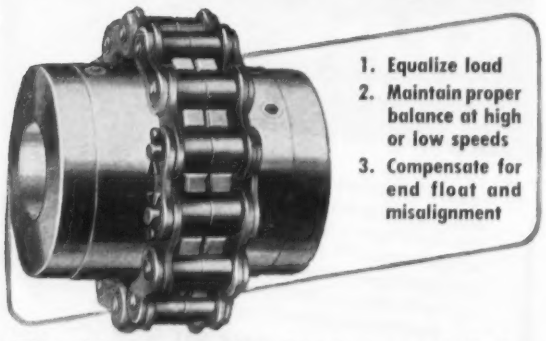
Check this valve closely if you need automatic control of high pressure liquid or gas. It features a pressure-balanced disk that permits pressures to 10,000 psi to be controlled with one diaphragm @ 40 psi supply air. Valve positioners are not required . . . bubble-tight closure is guaranteed.

Catalog No. 256 MVC contains complete information on this and many other GOT Motor Valves. Write for your copy today.

Garrett Oil Tools, Inc.
P. O. BOX 2427 • LONGVIEW, TEXAS
DIVISION OF U. S. INDUSTRIES, INC. New York, N. Y.

For more details circle NED-94 A7 on enclosed inquiry slip

LINK-BELT "RC" flexible couplings



1. Equalize load
2. Maintain proper balance at high or low speeds
3. Compensate for end float and misalignment

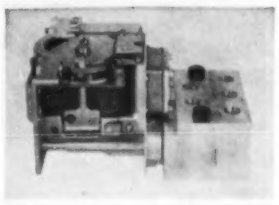
This triple advantage for better shaft connection results from Link-Belt's exclusive divided roller design. Other benefits include compactness, easy installation. And Link-Belt "RC" flexible couplings are readily available at all authorized Link-Belt stock-carrying factory branch stores and distributors—in 30 bore sizes from ½ to 12-in. . . . and ratings up to 1000 hp. 14,221

Write to LINK-BELT COMPANY, Prudential Plaza, Chicago 1, Ill., for Folder 2363.

LINK-BELT
"RC" FLEXIBLE COUPLING

For more details circle NED-95 A7 on enclosed inquiry slip

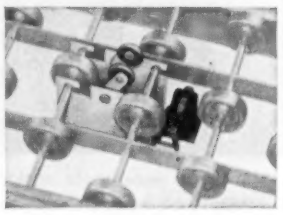
COMPUTING RELAY
performs most arithmetic functions



Model 56-1 universal pneumatic computing relay can be adjusted to perform any one of six different arithmetic functions, including addition, subtraction, multiplication and division. Consisting of modified model 58 Consotrol controller with a new manifold, relay operates on force balance principle, with four bellows positioning a floating disk about a fulcrum. Measurements are received by relay as 3-15 psi pneumatic signals, and ouput to a recorder or controller is also in terms of 3-15 psi air. Process applications include fuel-air flow ratioing, boiler swell compensation and flow totalizing on multiple lines. Made by **Foxboro Co.**, 26 Neponset Ave., Foxboro, Mass.

For more details circle NED-96 A7 on enclosed inquiry slip

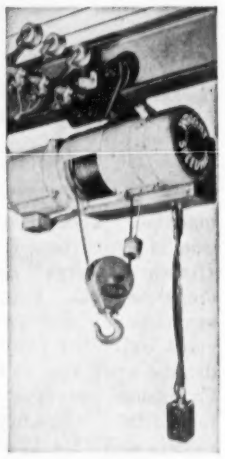
CASE COUNTER
automatic conveyor line unit



After easy installation without tools or alterations, the Rapistan case counter provides an accurate traffic count on wheel conveyor lines. It records up to 99,999. Counter can be moved from line to line as necessary and can be positioned for flow counting in either direction. Made by **Rapids-Standard Co.**, Dept. NED, 342 Rapistan Bldg., Grand Rapids 2, Mich.

For more details circle NED-97 A7 on enclosed inquiry slip

ELECTRIC HOIST
features two lifting speeds



Fast lifting and lowering speed and a slow, one-quarter normal speed for positioning are built into this Frame 1 Speedway electric hoist with fractional horsepower 1800/450 rpm motor. Side and end covers of the housing can be quickly unscrewed for servicing. Two set screw adjustments compensate for brake lining wear. Hoist is available for cross, parallel, hook and rigid or bolt mounting. It incorporates totally enclosed NEMA-specification ac or dc motors and an automatic, oil immersed brake. Made by **American Chain & Cable Co.**, Wright Hoist Div., York, Pa.

For more details circle NED-98 A7 on enclosed inquiry slip

The OFFICE VALET

Answer the Wraps Problem in Offices and Waiting Room

These efficient VALET Racks keep wraps off waiting room chairs, aired, dry and in press. Hold coats spaced apart, hats, umbrellas and overshoes. Accommodate 3 persons per running foot. Come in lengths of 3 ft. 3 in. or longer by the foot. The S-6 Office Valet costumer accommodates 6 people—ends piling of garments on others. Will not tip over. Built for lifetime service of heavy gauge, welded furniture steel. Smart in modern baked enamel finishes. Units form a complete system of wardrobe equipment that provides efficient wrap accommodation wherever people gather.

Write for Bulletin OV-8

VOGEL-PETERSON CO.
1121 West 37th Street Chicago 9, Illinois

For more details circle NED-99 A7 on enclosed inquiry slip

AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC

Zip away SCALE RUST PAINT

Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write Dept. 14 for the money-saving facts.

AURAND MFG. & EQUIP. CO.
1210 Ellis St. • Cincinnati 23, Ohio

For more details circle NED-100 A7 on enclosed inquiry slip

NEW... FOR FASTER ASSEMBLY

THOR UNI-TORK

Air and Electric Screwdrivers and Nutsetters

For *Uniform Torque* control of threaded fasteners

Thor, pioneer of so many industrial tools, inventor of the automatic screwdriver, has done it again! New Thor Uni-Tork Screwdrivers and Nutsetters completely eliminate operator judgment in the precision driving of threaded fasteners!

Thor Uni-Tork Tools deliver uniform torque output. When desired torque is reached, Uni-Tork snaps out of engagement. No more ratcheting, no slipping, no buzzing of clutch jaws.

Thor Uni-Tork's external torque adjustment, from 10 to 100 inch-pounds, permits faster set-up on any assembly job, holds torque setting indefinitely, saves wear and tear on tools.

All Thor Uni-Tork Air Tools are equipped with Thor Silentair Mufflers, reducing exhaust whine to a whisper. For a demonstration, call your nearest Thor factory branch. Thor Power Tool Company.

• *You can have the benefit of Uni-Tork on your present Thor Screwdrivers and Nutsetters. Ask for full details.*

Thor PORTABLE POWER TOOLS

THOR POWER TOOL COMPANY
Aurora, Illinois

Atlanta • Birmingham • Boston • Buffalo • Chicago
Cincinnati • Cleveland • Denver • Detroit • Houston
Kansas City, Mo. • Los Angeles • Milwaukee
Newark • Long Island City, N.Y. • Philadelphia
Pittsburgh • St. Louis • San Francisco • Seattle
Toronto, Canada • Export Division, New York City

For more details circle NED-101 A7 on enclosed inquiry slip

HARGRAVE
THE MOST COMPLETE LINE

Individually Power-Tested

WRITE FOR FREE CATALOG

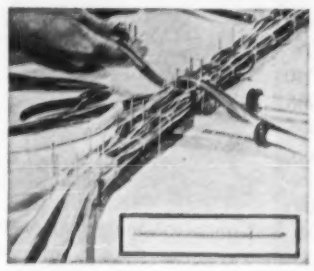
Showing a Clamp for every purpose, openings from 3/4" to 12' and depth from 11/16" to 16", also Chisels, Punches, Masonry Drills, Gasket Cutters, Brace Wrenches, File Cleaners, etc.

There is an Industrial Distributor Stock Near You

THE CINCINNATI TOOL COMPANY
1995 Waverly Ave., Cincinnati 12, Ohio

For more details circle NED-102 A7 on enclosed inquiry slip

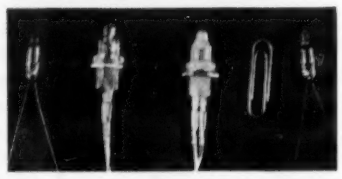
WIRING BOARD NAILS
driven up to collar-type stop



Designed for harness board wiring applications, these nails have collar-type stop 5/8-in. from pointed end to prevent them from being driven too far. Nails or posts are driven directly into board without aid of pre-drilled holes. Tops are milled round to facilitate slipping wires on and off the harness. Cadmium-plated steel nails are stocked in above-collar lengths of 1, 1½, 2, 2½ and 3 in. In photo, nails are being used to hold assembled wires in place according to circuit diagram laid out on board. Made by **John Hassall, Inc.**, Box 2178A, Westbury, N. Y.

For more details circle NED-105 A7 on enclosed inquiry slip

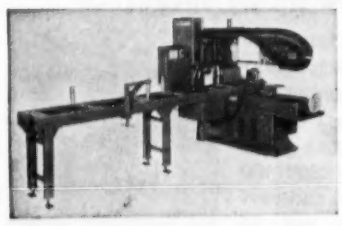
MINIATURE VOLTAGE INDICATOR
encapsulated in molded nylon



This miniature power voltage indicator consists of an NE-2A lamp hermetically sealed in molded nylon unit. Assembly contains solder terminals tapered to fit A-MP taper receptacle series No. 78. Mounting requires only nut and washer to fit 3/8-24 thread on nylon mold. Made by **Marco Industries Co.**, Dept. NED, 207 S. Helena St., Anaheim, Calif.

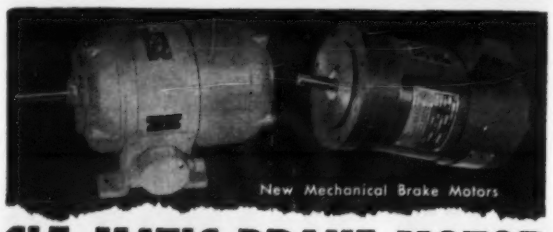
For more details circle NED-106 A7 on enclosed inquiry slip

AUTOMATIC BAR FEED
converts saw to cutoff machine



Developed specifically for use with the Wells 1200 horizontal band saw, this Roto-Veyor automatic bar feed converts the saw into a heavy duty, automatic cut-off machine. Feed mechanism and stock clamping action is synchronized with the saw. Manual control (forward-reverse) switch allows fast job setup or stock removal. Projection feed rollers are powered mechanically and controlled electrically. Feed provides unlimited projection length, an automatic hydraulic work vise and a stock stop with safety switch. Extension conveyor sections are powered by basic feed drive. Capacity ranges up to 12¾ in. OD for rounds and 12 x 12 in. for rectangular shapes. Made by **Wells Mfg. Corp.**, 1313 Harding St., Three Rivers, Mich.

For more details circle NED-107 A7 on enclosed inquiry slip



CLE-MATIC BRAKE MOTOR

A combination of adjustable, mechanical, braking features, coupled with variations in motor design, enables us to solve your motor problems without special and costly motor controls.

The above CLE-MATIC BRAKE MOTORS are now available in Squirrel Cage design, frame 56 through 225. Ratings: — through 3 HP, 1800 RPM continuous duty and through 5 HP 1800 RPM intermittent duty. Built in 900, 1200 and 1800 RPM's.

Now being used successfully on Bridge, Trolleys, Conveyors and Automation.

OTHER PRODUCTS

We build Squirrel Cage and Slip Ring motors in various sizes. Special designs for special applications.

Write for data and prices.

THE CLEVELAND ELECTRIC MOTOR COMPANY
5213 CHESTER AVENUE • CLEVELAND 3, OHIO

For more details circle NED-109 A7 on enclosed inquiry slip

RECIPROCATING SOLENOIDS

R2D-328 SOLENOID OPERATOR

Reciprocating solenoids have the trade name of "RD Solenoid Operators."

DEFINITION

An RD solenoid operator is a reciprocating solenoid unit made up of two solenoids mounted in tandem to actuate a common plunger oscillating between them.

CLASSIFICATION AND DENOMINATION

Class I. Plain RD operators for operation in open air.
Class II. Oil immersed, RDZ operators.
Class III. Explosion proof RDX operators.
Type 1. Two point operators R2D, R2DZ, R2DX.
Type 2. Three point operators R3D, R3DZ, R3DX.
Form A, side mounted, Form B, end mounted.

Operators available: RD-100, RD-300, RDX-300, RD-400, RD-700 and RD-800.

Ask for bulletins on operators, solenoids, solenoid brakes, Recipromotors and Semotors. See our catalogs in Sweet's Catalog Service.

TROMBETTA SOLENOID CORP.
329 N. MILWAUKEE ST. • MILWAUKEE, WIS.

For more details circle NED-103 A7 on enclosed inquiry slip

Portable SURFACE HARDNESS TESTER

only 3/4 in. in diameter, less than 7 in. in length, weighs 7 ounces, gives readings in Rockwell and Brinell

This instrument measures surface hardness by height of rebound of a steel hammer while held in vertical position. Due to the locking of the steel hammer at maximum rebound, a direct reading is possible, eliminating any guesswork or estimating.

The tester is intended for shop use, reads Brinell 3000-kg. and Rockwell C scales up to 67. It is designated as Model ST-5. A movable scale makes calibration easy by checking against any known hardness. Accessory equipment includes carrying case, test blocks and a test stand to hold parts weighing less than 15 lb. or with irregular surfaces.

Ask for bulletin "Peabody Hardness Tester"

Mechanical Devices, Inc.
10631 Harper Ave., Detroit 13, Mich.
Additional distributorships available

For more details circle NED-110 A7 on enclosed inquiry slip

LAMINATED PLASTIC PARTS
a few or 1,000,000

A variety of specialized equipment plus a versatile organization enables you to look to Synthane for fabrication of component parts in either limited or production quantities.

Easiest way to benefit from these facilities is to let us fabricate parts for you from Synthane laminated plastics. Then you can be sure of the right materials, the newest fabrication methods, the proper dies, jigs, tools and fixtures, central control—and delivery in good time without tooling up, rejects or production worries.

You furnish the print; we'll furnish the part.

SYNTHANE
SYNTHANE CORPORATION
N.E. River Rd., Oaks, Pa.

☐ Please get in touch with me about a specific problem
☐ Send me your complete catalog of Synthane laminated plastics and machining facilities.

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

For more details circle NED-104 A7 on enclosed inquiry slip

for inspection and fine assembly work
IPCO "FLUD-LITE" MAGNIFIER

Scientifically focused, shadow-free fluorescent light. Magnifies the work through a high quality 5" diameter lens. Bench model illustrated. Also made in hand model for portable use.

WRITE FOR BULLETIN NO. 58

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-108 A7 on enclosed inquiry slip

Try Them Free!
KEPS®
TESTING SAMPLES

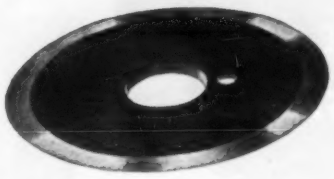
See how this amazing new Shakeproof fastening saves assembly time and assures vibration protection. A SHAKEPROOF® Lock Washer of the right size and type is pre-assembled on each nut . . . only one unit to handle . . . the lock washer can't drop off . . . every nut is certain to be locked tight.

SEND FOR YOUR FREE KIT OF KEPS TESTING SAMPLES TODAY!

SHAKEPROOF
"Fastening Headquarters"
St. Charles Road, Elgin, Illinois
SHAKEPROOF FASTEX — DIVISIONS OF ILLINOIS TOOL WORKS

For more details circle NED-111 A7 on enclosed inquiry slip

PIPE AND TUBE CUT-OFF WHEELS



For all makes of rotary pipe and tube cut-off machines. Improved manufacturing methods have enabled the Quick-Shear Wheel Company to set prices 25 to 50% below existing competition.

For example: 7" x ⅛" thick x 1½" bore double bevel are in lots of 1-5—$6.00, in lots of 6-11—$5.50, in lots of 12-23—$5.00, in lots of 24-49—$4.50, in lots of 50-99—$4.25 and in lots of 100 and up $4.00. 7" x 3/16" thick x 1½" bore double bevel are in lots of 1-5—$6.75, in lots of 6-11—$6.00, in lots of 12-23—$5.50, in lots of 24-49—$5.00, in lots of 50-99—$4.75 and in lots of 100 and up $4.50.

Complete price list submitted on request with no obligation.

Quick-Shear Wheel Company
5240 West Winona Avenue
Chicago 30, Illinois

For more details circle NED-112 A7 on enclosed inquiry slip

SPEED UP PRODUCTION With ARLIN HIGH SPEED AUTOMATIC FEEDERS

ARLIN MODEL 372-18 AUTOMATIC ROTARY HOPPER FEED

Hopper provides accurate parts flow on single or dual tracks—making your machine fully automatic. HOPPER VERSATILITY permits a wide variety of parts to be handled by SIMPLE TRACK CHANGEOVER accomplished by removing one bolt. LARGE ANTI-JAM CLUTCH—STANDARD N.E.M.A. MOTOR and MOUNT. SPEED: up to 20,000 oriented parts per hour. RUGGED CONSTRUCTION and PRACTICAL DESIGN combine to offer years of low cost production.

Write us your feeding need—We'll help solve it—Send for catalog.

For more details circle NED-113 A7 on enclosed inquiry slip

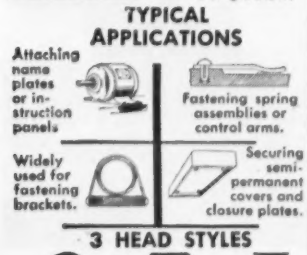
DRIV-LOK STUDS

Save 60% Fastening Time!

- HOLD PERMANENTLY
- DISASSEMBLED EASILY WITHOUT DAMAGE TO COMPONENTS

Quick, simple insertion . . . Drill Hole and Drive Stud with a single blow.

TYPICAL APPLICATIONS



3 HEAD STYLES

Driv-Lok Studs save time and reduce costs in fastening name plates, covers, brackets, panels, etc, to heavier sections and for countless other applications involving light-to-heavy member fastening. Once installed, Driv-Lok Studs will not vibrate loose or fall out—yet they can be easily removed without damage to components. Made in 3 head styles. Write for illustrated catalog sheet, prices and samples.

DRIV-LOK PIN COMPANY
717 Chauncey St. • Sycamore, Ill.

For more details circle NED-114 A7 on enclosed inquiry slip

ELECTRONIC SPEED DRIVE in 30 to 150-hp capacities for speed variations over 32:1 range

An operator's control station, electronic control unit and a direct-current motor comprise this electronic variable speed drive available in capacities from 30 to 150 hp. Standard features include dynamic braking, reversing, forward-reverse-jog operation, tachometer feedback, acceleration and armature current-limiting. Speed is infinitely variable over 32:1 range, along with 8:1 armature control, 4:1 field control and regulation within 1½ per cent or better.

Drive is designed for inclusion in automatic systems, and requires a small low-power direct-current voltage to control motor speed. Circuit features include fail-safe protection, automatic current limiting, armature voltage limiting, automatic ignitrol current balancing and compensation for line voltage fluctuations up to ±10 per cent. Made by **Raytheon Mfg. Co.**, Commercial Equipment Div., Dept. 6120, 100 River St., Waltham 54, Mass.

For more details circle NED-115 A7 on enclosed inquiry slip

AIR-OPERATED SUCTION CLEANER models for wet and/or dry pickup include unit which fits 55-gal drum

Large deposits of such dry materials as dust, flour, plastic powders, carbon dust, chemicals and cement, plus volatile liquids and fuels can be handled safely by the Vac-U-Max air-operated high-suction industrial cleaner. It is available in four standard 30 and 55-gal capacity models for wet and/or dry applications.

Photo shows integral 55-gal unit and cover unit which fits any 55-gal drum. Special units are available for specific requirements. Units are capable of removing sludge and coolant from machine tools, grease from gear cases and oily machined chips. Normal operation develops a vacuum of 8 in. of mercury or 109 in. water using only 25 cfm free air. Minimum of 30-psi air pressure is required. With standard 1½-in. hose, 1 gal of fluid is siphoned per second. Made by **Vac-U-Max Sales Co.**, 11 Montgomery St., Belleville 9, N. J.

For more details circle NED-116 A7 on enclosed inquiry slip

IT'S BRAND NEW

Cleveland's RC-5—a new quiet, light-duty electric vibrator

- It's quiet
- Develops 275 lbs. of centrifugal force
- All electric
- Operates on less than .5 amp. on 220 v.

Compact design for light duty on bins and hoppers, chutes, tubes, and other storage facilities for bulk materials. Prevents bridging, plugging and arching—eliminates processing delays.

WRITE FOR DETAILED INFORMATION AND PRICES.

Air or Electric
Portable or Permanent
Silent or Standard

THE CLEVELAND VIBRATOR CO.
2744 Clinton Avenue • Cleveland 13, Ohio

For more details circle NED-117 A7 on enclosed inquiry slip

WHAT DO YOU KNOW ABOUT PORTELVATOR®

The Handy HAMILTON Portable Elevating Table

Unobstructed Perimeter (Work From ANY Side)
3 Table Surfaces
4-Point Support
Capacities to 5,000 pounds
4-Wheel Models
6-Wheel Models
Special Designs TOO!

You should know the WHOLE STORY
Write* for NEW, FREE Bulletin No. 2411

ADDRESS

THE HAMILTON TOOL COMPANY
901 Hanover Street
HAMILTON, OHIO

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE
2411

For more details circle NED-118 A7 on enclosed inquiry slip

solve many difficult control problems...use OHMITE® RHEOSTATS with special features

Ohmite offers rheostats with a wide variety of *special features*. All have the distinctive Ohmite design features: smoothly gliding metal-graphite brush; all-ceramic construction; insulated shaft and mounting; windings permanently locked in place by vitreous enamel.

BUSHINGS FOR SPECIAL THICKNESS Extra-long bushings and shafts for panels up to 2" in thickness. Seven bushing lengths.

VENTILATED CAGES Used to prevent mechanical injury to the rheostat or human contact with electrically "live" parts.

TOGGLE SWITCH Is operated with a positive snap by the rheostat arm at either end position. Used for heavy-duty applications.

SPECIAL TANDEM ASSEMBLIES Ohmite Rheostats can be mounted with two, three, or more in tandem for simultaneous operation of several circuits by one knob.

SCREW DRIVER SLOT SHAFT Shaft ends can be slotted for operation with a screw driver where few adjustments are needed.

WITH OFF POSITION FEATURES Opens circuit at high or low resistance position with *snap-action* (illus.); opens circuit at high resistance position with *dead lug* off position; or has *dead section* off position.

SENSITIVE SWITCH Opens or closes circuit with minimum movement of control knob shaft. Extremely dependable long life switch.

Write on Company Letterhead for Engineering Catalog

OHMITE MANUFACTURING COMPANY
3620 Howard Street, Skokie, Illinois

BE RIGHT WITH OHMITE®
RHEOSTATS • RESISTORS • RELAYS • TAP SWITCHES • TANTALUM CAPACITORS

For more details circle NED-119 A7 on enclosed inquiry slip

3 HAMMER BLOWS but ONE with HANSEN

ONE HAND TACKER

TIME is important! Consider the time saved by using a Hansen Tacker!

In less than a second you can deliver a blow from the Hansen Tacker — and repeat the blow fast as you grip. One blow drives home a two-legged staple. It takes three hammer blows to drive a nail — and five seconds to deliver them.

Traveling only ¾", the Tacker hammer is tripped and delivers its blow, and most of the effort is absorbed by compound leverage action. And each blow is measured, accurate — saving time and effort.

Save TIME · STEPS · MATERIALS

A. L. HANSEN MFG. CO. Request Booklet Today!

5164 Ravenswood Ave., Chicago 40, Ill.

For more details circle NED-120 A7 on enclosed inquiry slip

Loosens FROZEN PARTS FAST!

Handy Won't Leak Shoots 3 Feet

Same formula as famous Kroil that has pleased 14,000 industrial users for 10 years or more. Loosens stuck together metal parts, bushings, bearings, bolts, screws, pipe, etc., "anything from an embalmer's needle to a bulldozer," one customer said.

"Like an extra employee," said another. "Turned rust into mush, put $50,000 equipment back to work."

You too can get these results.

Try Aerokroil at our risk. Send $2 cash, and we'll pay postage.

12-OZ. CAN $2. F.O.B. NASHVILLE CASE OF 12 $16.75

KANO LABS. 1074 S. Thompson Lane Nashville 11, Tenn

For more details circle NED-121 A7 on enclosed inquiry slip

Save on Holes!

SWITCH TO ARO

PAR-A-MATIC DRILLING UNITS

LOW INVESTMENT . . . You can drill any number of holes simultaneously, at *extremely low cost!*

LOW MAINTENANCE . . . Par-A-matics are air-operated . . . simple to set up and maintain.

LOW CENTER-TO-CENTER DISTANCE . . . compact design permits use where space is a factor.

FLEXIBILITY OF SET UP . . . Adjustments are quick and simple. Adjustable stroke length . . . variable rate of feed. Write for bulletin 5546-T.

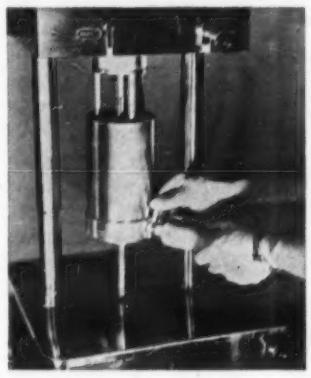
ONLY $175.00

THE ARO EQUIPMENT CORPORATION
Bryan and Cleveland, Ohio
Aro of California, 3141 S. Grand Ave., Los Angeles 7
Aro Equipment of Canada, Ltd., Toronto 15, Ontario
Offices in All Principal Cities

ARO® AIR TOOLS
Also . . . Air Hoists . . . Lubricating Equipment . . . Aircraft Products . . . Grease Fittings . . .

For more details circle NED-122 A7 on enclosed inquiry slip

PRESSURE MIXER
blends catalyst and additive



Air-free mix of catalyst and additive materials is delivered from the Pyles Semco pressure mixer. Five models with 1 to 5-qt capacities deliver the material under pressure into a polyethylene cartridge for use with a companion sealant gun. Mixing action is provided by two double-acting air cylinders, one of which forces out entrapped air. Counter registers mixing dasher cycles to assure uniformity of batches. Cabinet and pots are stainless steel. Made by **Pyles Industries, Inc.**, 8926 Second Ave., Detroit 2, Mich.

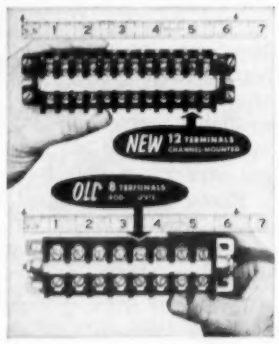
For more details circle NED-123 A7 on enclosed inquiry slip

AUTOMATIC SAW SHARPENER
handles ½ to 14-in. diameter blades

All circular metal-cutting saws from ½ to 14-in. diameter, having any pitch from 32 to 2 teeth per inch can be sharpened automatically on this precision saw sharpener. Eight arbors are supplied for hole sizes from ¼ to 1 in., while two friction clamps cover blade diameters from ½ to 2 in. and from 2 to 14 in. Master indexing arrangement makes possible unattended sharpening and assures uniformity of teeth. New teeth can be ground into saws with broken teeth, or special teeth can be ground into new blade blanks. (Editor's Note: This description appeared in the November issue with the blade size range incorrectly given in the headline.) Made by **Hamco Machines, Inc.**, Dept. N, 99 Mt. Hope Ave., Rochester 20, N. Y.

For more details circle NED-124 A7 on enclosed inquiry slip

TERMINAL BLOCK
channel mounted for easy assembly



Channel mounted terminal block with an increased number of terminals in the same space (see photo) makes it possible to add new terminals to existing blocks, either at the ends or in the middle, using only a screwdriver. Block is 25-amp lug type unit. Also available are 25-amp terminals with pressure wire connectors and 50-amp box lug terminals in the same design. Made by **Square D Co.**, 4045 N. Richards St., Milwaukee 12, Wis.

For more details circle NED-125 A7 on enclosed inquiry slip

What a sight!

CENTURY'S

All-new Oil Level Sight Gage

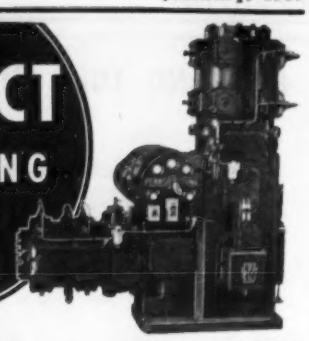
- No Easier Installation Ever Designed
- Better Visibility at any Height
- Leak-proof—No Dripping
- Streamlined Modern Appearance
- Important Savings in COST
- Available NOW From STOCK

Send for new catalog containing dimensional information on hydraulic reservoirs and complete line of power unit accessories.

CENTURY HYDRAULICS, INC.
7703 LYNDON AVE. • DETROIT 38, MICHIGAN
Telephone: Diamond 1-3797

For more details circle NED-126 A7 on enclosed inquiry slip

COMPACT SPACE-SAVING DESIGN



PPC

PACKAGE DESIGN • READY TO RUN

Class HAE ANGLE TYPE Compressors

- PACKAGE DESIGN makes close quarter installation practical.
- FOUNDATION—A small foundation is all that is required. Installation and relocation a minor matter.
- BUILT-IN MOTOR requires no foundation.
- BUILT-IN INTERCOOLER with automatic drain. Full force feed lubrication to frame and cylinders. Automatic shut down in event of oil failure.
- AIR CUSHION VALVES constructed without bolts, nuts or screws to work loose or burn fast, are noted for long life and tight seating qualities.

Write for Descriptive Bulletin HAE

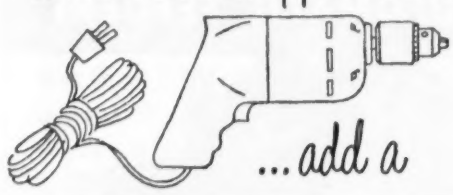
PENNSYLVANIA PUMP AND COMPRESSOR COMPANY
Main Office and Works: Easton, Penna.
Earning Confidence Since 1920

E-PP343-1156

PENNSYLVANIA PUMP AND COMPRESSOR COMPANY

For more details circle NED-127 A7 on enclosed inquiry slip

Take an ordinary portable drill



... add a

Supreme Push-Pull Tapper

WINNER Mill & Factory's Feature Product Award . . . October 1956

Tap in all materials—fast, safely, accurately—with *minimum* breakage

The Supreme PUSH-PULL TAPPER is an instant-reversing speed reduction unit made expressly for tapping. The prize-winning Push-Pull attaches easily to either the spindle or chuck of any drill. Speed reduction of 7:1 gives adequate power to tap in all materials . . . instant-reversing means that tap direction can be reversed without stopping drill. Tap can be moved into and out of the hole at will.

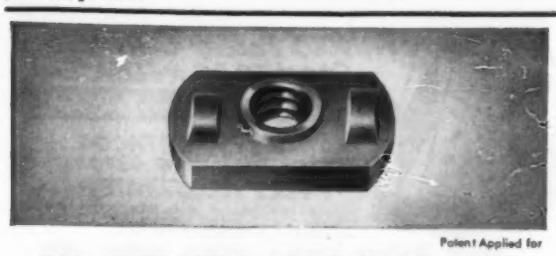
With the Push-Pull tap breakage is minimum. Finger-tip control gives operator a better "feel" for break-causing strains. Complete PUSH-PULL TAPPER Kit, No. 9000, costs just $29.95; includes everything but taps. Write for literature.

Supreme Push-Pull Tapper

by the makers of SUPREME BRAND CHUCKS

SUPREME PRODUCTS CORP., 2222 S. CALUMET, CHICAGO 16

For more details circle NED-128 A7 on enclosed inquiry slip



Patent Applied for

THE NEW OHIO "RN" WELD NUT

This nut, which is applied by resistance welding, becomes the PRIMARY FASTENER in fastener assemblies. It offers these distinctive advantages:

- SIMPLIFIED PRODUCT DESIGN
- LIGHTNING-FAST APPLICATION (By resistance welding)
- PRIMARY FASTENER PERMANENTLY POSITIONED (No retapping required)
- SPLIT-SECOND ASSEMBLY OF PRODUCT COMPONENTS (Made possible by pre-attached primary fastener)
- SHIPMENT FROM STOCK

Samples and information furnished upon request.

OHIO WELD-FASTENERS
THE PRIMARY FASTENER IN FASTENER ASSEMBLIES

THE OHIO NUT & BOLT CO. • 33 FIRST AVE., BEREA, O.

For more details circle NED-129 A7 on enclosed inquiry slip

For HIGHEST ELECTRICAL & MECHANICAL *Efficiency!*

New

JONES 2400 SERIES PLUGS & SOCKETS

Improved Socket Contacts. Four individual flexing surfaces. Positive contact over practically their entire length.

Both Plug and Socket Contacts mounted in recessed pockets greatly increasing leakage distance, INCREASING VOLTAGE RATING.

Plug and Socket Contacts cadmium plated. Add to appearance of your equipment.

Interchangeable with Jones 400 Series.

Ask for Catalog 21, Complete line Jones Plugs, Sockets, Terminal Strips.

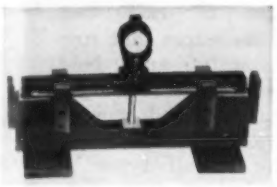
P-2406-CCT
Plug — with cable clamp in top.

S-2406-SB
Socket with shallow bracket for flush mounting.

Jones HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

For more details circle NED-130 A7 on enclosed inquiry slip

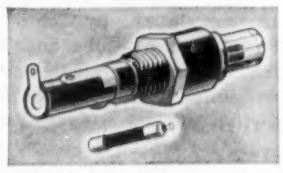
UNIVERSAL GAGE UNIT
indicator is protected on all sides



All parts of Hanlo universal gage units are standard, replaceable, fully enclosed and protected from dust and foreign matter. Changeover from one job to another takes but a few minutes. Gage units are not obsoleted by model changes, as standard units can be removed for use in the new design. Shown is a universal gage unit used as a depth gage on a 14-in. central base, and stored on a 14-in. master used for setting the indicator dial. Any impact from external or internal shock is absorbed by the gage unit, not the indicator. Basic adjustment within the gage is 0.100-in. Standard gage extensions are available in length increments of 0.100-in. to provide an infinite gaging range. Conversion of the indicator gage into a flush pin gage is possible. Made by **Hanlo Gage Co.**, 16152 Hubbell Ave., Detroit 35, Mich.

For more details circle NED-132 A7 on enclosed inquiry slip

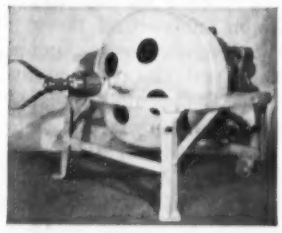
FUSEHOLDER & FUSE
activates visible or audible signal



Combination fuseholder and indicating fuse can be made to flash a light, ring a bell, trip a relay or give other signals, showing when and where a fuse blows. Indicating pin in the fuse pops out when the fuse is blown to activate the signal or alarm and an indicating lamp shows through the transparent knob holder. The panel mounted type HKA fuseholder takes a ¼ x 1¼-in. Buss indicating fuse. Made by **Bussmann Mfg. Co.**, 2534 W. University, St. Louis 7, Mo.

For more details circle NED-133 A7 on enclosed inquiry slip

ELECTRIC SEWER CLEANER
for ¾ to 4-in. diameter pipelines



This Junior Triple Action grease and root cutter is designed to clean ¾ to 4-in. diameter pipe lines up to 100 ft. long. Music wire cable is whirled down pipe to remove rags, sand, grease, roots, metal chips and other obstructions. Accessories consist of set of three interchangeable cutter blades and hook end, one ½-in. by 100-ft rod for large lines and a 5/16-in., 50-ft rod for smaller lines. The 78-lb unit has an aluminum frame and ¼-hp reversible high torque-low speed motor. Made by **Miller Sewer Rod Co.**, Dept. NEDR, 4642 N. Central Ave., Chicago 30, Ill.

For more details circle NED-134 A7 on enclosed inquiry slip

5413

PRECISION SMALL HOLE DRILLING

Should always be done on the

HAMILTON VARIMATIC®

STURDY
BENCH TYPE
VARIABLE SPEED
SUPER SENSITIVE
PRECISE

For complete information write for our FREE Bulletin No. 5413. Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

For more details circle NED-135 A7 on enclosed inquiry slip

Why Faucets Leak

Faucet washers, when fastened with TOO LONG or SHORT screws – as in "9 out of 10" replacements by best mechanics – quickly work loose, destroy themselves!

"SEXAUER" finds the answer – after over 34 years research

Now, NEW Pat'd. "Sexauer" SELF-LOCK screws, with expanding NYLON PLUG imbedded in the threads, fasten and *lock* at correct depths AUTOMATICALLY, hold faucet washer *firmly*. Made of rust and corrosion resisting Monel, heads won't twist off, screw slots won't distort; they can be used over and over.

Note Nylon plug — locks screws automatically

Note Fiberglas backing — resists closing squeeze

When installed with NEW Pat'd. "Sexauer" EASY-TITE faucet washers, this combination outlasts past faucet repairs "6 to 1"!

EASY-TITES are made of super-tough, pliable duPont compound (neither rubber nor fibre) to withstand super-hot water and make tight even on worn, corroded seats. They are further *reinforced* with a vulcanized layer of Fiberglas to resist distortion and splitting from shut-off squeeze.

The hidden costs of faucet leaks!

As authenticated by Hackensack, N. J. Water Co. and American Gas Association, stopping just ONE pin-hole (1/32") size leak can *reduce* water waste 8,000 gal. monthly. Stopping a *hot water* faucet "drip" can result in water and fuel saving of over $7.58 QUARTERLY – plus material and labor costs and *costly* fixture replacements!

That's why thousands of Government Agencies, Housing Projects, Hospitals, Colleges, Schools, Manufacturers, Hotels, Realties and Utilities – country wide – look to "SEXAUER" Technicians skilled in plumbing maintenance know-how. They are trained to determine stock levels thru complete SURVEYS of actual fixtures in service and to install stock systems that avoid over-stocking and shortages.

NEW SELF-LOCK SCREWS and EASY-TITE faucet washers are just part of the "SEXAUER" line of over 3000 TRIPLE-WEAR plumbing repair parts and Pat'd. precision tools.

A "SEXAUER" Technician in your vicinity will make our NEW, 126 pg. Catalog H available and gladly consult with you regarding your plumbing maintenance problems *without obligation*. Write today!

J. A. Sexauer Mfg. Co., Inc. Dept. AU-17
2503-05 Third Ave., New York 51, N. Y.

Gentlemen: *Please send me a copy of your NEW, 126 page Catalog H.*

My name ..... Title .....
Company or Institution .....
City ..... Zone ..... State .....

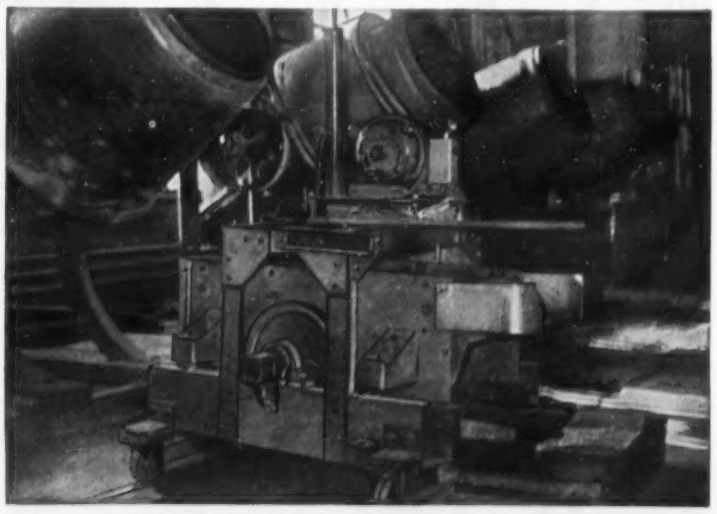
SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle NED-136 A7 on enclosed inquiry slip

Here's How The
WATERBURY BUCKLE CO.
Finds Good Use For This

MIGHTY-MITE
VIBRATING SCREEN

It seems there's no limit to the screening versatility of Mighty-Mite vibrating screens. This double deck Mighty-Mite separates sawdust from buckle parts after they come out of the tumbling barrel operation. Note the screen moves on tracks to take the feed from each of a total of six tumbling barrels. The finished product comes off the top deck of the Mighty-Mite into a tote box. The sawdust goes through the top deck and is caught on a solid pan lower deck to be discharged off the front of the screen into a second tote box.



MADE IN SINGLE AND DOUBLE DECK MODELS TO HANDLE UP TO 15 T.P.H. SIZES 1½'x3' to 2'x8' • WIRE CLOTH OPENINGS TO MEET ANY REQUIREMENT

Remember . . .
WHEN THE LOAD IS LIGHT SCREEN IT RIGHT WITH MIGHTY-MITE

GET THE LABOR SAVING FACTS NOW! • SEND FOR BULLETIN #12

SCREEN EQUIPMENT CO., INC. BUFFALO 25, N. Y.
One of America's Largest Makers of Vibrating Screens Exclusively

For more details circle NED-131 A7 on enclosed inquiry slip

for machine tools feed pumps metering

SAVINGS MADE ON JUST 1 TOOL PAY FOR HAGEN COUNT SWITCH

Set this Hagen Count Switch to the number of operations at which a tool should be changed. The count switch trips a switch after a preset number of electrical impulses . . . and thereby shuts down the machine automatically. Tool wear never reaches the point where tools must be ground down excessively to resharpen. That means increased tool life, reduced tooling costs and fewer rejects. Savings on just 1 tool usually more than pay for the count switch. Dials available with up to 54,000 counts. 72 settings. 1% accuracy. Also ideal for pumps and metering operations.

HAGEN
Manufacturing Company, Inc.
Moline, Illinois
Subsidiary of
Eagle Signal Corporation

For free Bulletin 780, Address Dept. NED-157

For more details circle NED-181 A7 on enclosed inquiry slip

THROW NEW LIGHT ON GARAGE OPERATING EFFICIENCY

CHANGE TO

Cordomatic®

DROP LIGHT REELS

Available in 20', 30' & 40' cord lengths

A standard in garages and service stations everywhere, the Cordomatic Drop Light Reel outlasts a dozen drop cords, saves mechanics' valuable time, is low in cost.

Mounts easily on wall or ceiling, locks and releases at any desired length. Works like a window shade.

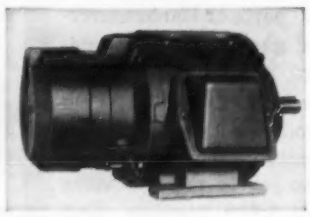
Send for free brochure and dealer price sheet.

CORDOMATIC, Dept. "X"
17th & Indiana Ave., Philadelphia 32, Pa.

Name_____
Firm_____
Address_____
City_____ Zone____ State____
Your Jobber_____

For more details circle NED-182 A7 on enclosed inquiry slip

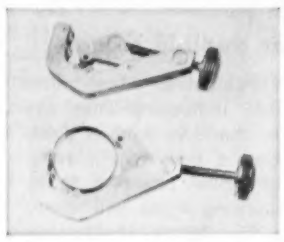
BRAKEMOTORS stop instantly, hold heavy loads



Line of cast iron brakemotors that stop instantly and hold heavy loads has totally - protected components for long service life on all types of equipment from bottle-washing machinery to heavy-duty cranes. Torque range from 3 to 345 lb-ft, one-piece molded friction linings and one-operation torque setting are features. If power fails, deadman operation sets and holds load until normal operation is restored. Protected, totally-enclosed nonventilated, totally-enclosed fan-cooled and explosion-proof Class I, Group D and Class II, Groups E, F and G enclosures are available. Made by **Reliance Electric & Engineering Co.,** 1082 Ivanhoe Rd., Cleveland 10, O.

For more details circle NED-183 A7 on enclosed inquiry slip

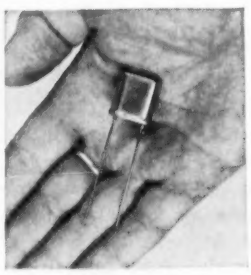
TUBING CUTTER has 1/8 to 3 1/8-in. capacity



Copper, aluminum, brass and plastic 1/8 to 3 1/8-in. diameter tubing can be accommodated by this Pipemaster 3T tube cutter. All cuts are straight and smooth without distortion of tube out of round since tube is backed by two of the tool's four rollers. Cutter wheels are easily and quickly changed. Unit weighs only 2 lb 9 oz. Made by **Erie Tool Works,** 733 W. Twelfth St., Erie, Pa.

For more details circle NED-184 A7 on enclosed inquiry slip

SNAP-ACTION THERMOSTAT resists shock and vibration



Disk thermal element, fine silver contacts and hermetically sealed assembly are featured by the C7216 Klixon snap-acting thermostat designed for maximum shock and vibration resistance. Copper-nickel plated steel case protects parts from contamination and moisture. Applications include aircraft controls and guided missiles, as well as heaters, electronic circuits and components, servo mechanisms, gyroscopes, aerial cameras and gun mounts. Fixed temperature settings range from −20 to 400° F. Unit is available with No. 20 copper wire leads. Made by **Metals & Controls Corp.,** Spencer Thermostat Div., 1500 Forest St., Attleboro, Mass.

For more details circle NED-185 A7 on enclosed inquiry slip

When Your Process Demands a Filter, Mixer or Mixing Tank

CHECK THE ADVANTAGES

Clip and Mail This Coupon For Complete FREE Alsop Catalog

ALSOP ENGINEERING CORPORATION
1201 East Road, Milldale, Conn.

GENTLEMEN:
Please send me FREE, your new catalog, "Liquid Processing Equipment".

Name_____
Company_____
Address_____

For more details circle NED-186 A7 on enclosed inquiry slip

FAMOUS Palley CATALOG SOON TO BE RELEASED!

396 PAGES PACKED WITH BARGAINS

ALL NEW 1957 CATALOG... GREATER THAN EVER BEFORE FULLY ILLUSTRATED

THOUSANDS UPON THOUSANDS OF INDUSTRIAL, COMMERCIAL AND CONSUMER ITEMS AT GREATER SAVINGS THAN EVER BEFORE! New Merchandise! Top Quality GOV'T SURPLUS!

HYDRAULIC Cylinders, Pumps, Motors, Fittings, Tubing, Gauges, Instruments and Complete Assemblies of every description. A tremendous selection of Gov't Surplus as well as our own Custom Made line. And just wait until you see these prices!

TOOLS – SUPPLIES – EQUIPMENT in Electrical, Mechanical and Building lines. Aircraft Parts and Supplies. Electric Motors, Generators and Portable Power Plants. Pumps of all types. Tons and tons of Hardware. Fans, Blowers, Ventilators, etc.

WATCH THIS AD FOR ANNOUNCEMENT OF THE PUBLICATION DATE!

SAVE! SPECIAL GOV'T SURPLUS

2500 lb. WINCH HOIST

Ideal for use in garage, shop, boat yard, farm, on trucks, etc. Has bronze, worm gear drive with 24 to 1 gear ratio and 3-speed crank. Comes with 18 ft., 3/16", high tensile, steel cable.
WINCH HOIST – Same as above but has free-spool, pull-out clutch. 29.50
MOUNTING FRAME – for both hoists – 32.50
NOTE: We carry a complete line of hoists from small portables to huge, heavy duty types. Write for details.

SPECIAL 40,000 lb. THRUST HYDRAULIC CYLINDER

A GOV'T SURPLUS BARGAIN! This cylinder may be oil or air operated. Produces up to 40,000 lbs. thrust with oil, on a 3000 PSI line pressure. May oil be used on a low pressure air cylinder. Has a 4" bore and 18" stroke. 30½" long overall. Has been Navy overhauled. LIKE NEW! 49.95

NOTE: Our complete line of Hydraulics, including our own Custom made line, is one of the largest stocks in the country. What we cannot supply we will manufacture to order.

UNIVERSAL JOINTS

Has a heavy duty, solid cast Bronze body. Rotates from 90° to 180° as desired. Has 29/32" diameter steel shafts with a ball and socket joint. In excellent condition. Ready-to-use!!!

Write TODAY for complete list of many other types of universal joints, hoists, hydraulics, etc.

SPECIAL 180° OFFSET DRIVE

For use where tremendous power at a low take-off RPM is desired. Has 6 gears rotating on self-lubricating, hi-speed roller bearings. 85 to 1 gear ratio. Shafts are 1 1/4" and 3/8" diameter.
USED in good condition ONLY 5.95
NEW in excellent condition . . . NOW 8.95

SAVE ON STEEL CABLE

ALLOY STEEL
Finest quality Alloy Steel cable. Rust & corrosion resistant.

Size	Price per ft.
7 x 7 STRAND	
1/16"	5¢
3/32"	6½¢
7 x 19 STRAND	
1/8"	9½¢
5/32"	16¢
3/16"	12½¢
1/4"	13½¢
9/32"	16½¢

STAINLESS STEEL
Aircraft Quality. Rust & Corrosion Proof. You can not beat this Bargain.

Size	Price per ft.
7 x 19 STRAND	
1/16"	7¢
3/32"	14¢
5/32"	21¢
3/16"	23¢
7/32"	29¢
1/4"	38¢
5/16"	47¢

SAVE ON NEW NYLON ROPE

Very Finest Nylon Rope. Top Quality. Available in Sizes of 1/8" to 1" diam. Prices as low as 5¢ per running foot. Write Today for complete price list.

Palley's 3363 E. VERNON AVE. DEPT. NED-1 LOS ANGELES 58, CALIF.

Order From This Ad – P.O's accepted from well rated D&B firms. Prices are F.O.B. our Los Angeles Warehouse.

For more details circle NED-187 A7 on enclosed inquiry slip

HOW TO BUILD A SAFER STAIRWAY... use TRI-LOK and TRI-FORGED stair treads

For the safest and strongest stairways, insist on *Tri-Lok* or *Tri-Forged* stair treads. Cuts slipping to a minimum, eliminates over-stepping. Get complete information on Tri-Lok and Tri-Forged steel grating and stair treads now. Write to

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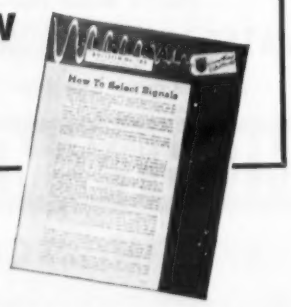

This free bulletin, produced by the Federal Sign and Signal Corporation and available from Graybar, shows how to select the best signal or intercommunication system to satisfy your particular needs. Situations which require paging systems, danger signals, and general alarm systems are fully described and illustrated along with the types and combinations of equipment which will provide the best results at the least cost. Complete with graphs, charts, illustrations and a signal selector. Write today. We'll mail you your copy promptly. 681-281

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COMPANY _____

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A-7

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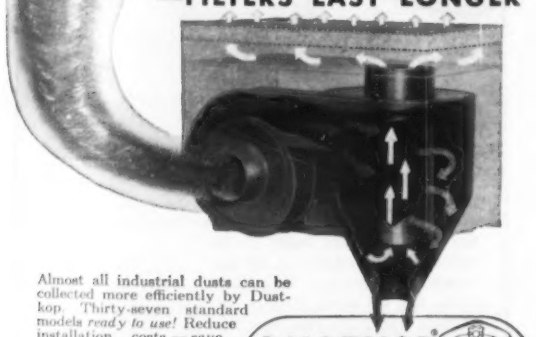
FOR MORE EFFICIENT DUST COLLECTION —FILTERS LAST LONGER



Almost all industrial dusts can be collected more efficiently by Dustkop. Thirty-seven standard models *ready to use!* Reduce installation costs — save space. Write for descriptive literature.

DUSTKOP® STOPS DUST

ALSO A COMPLETE LINE OF MIST COLLECTORS

AGET MANUFACTURING COMPANY
1396 EAST CHURCH ST., ADRIAN, MICH.

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ROCKFORD MORE

CLUTCH LIFE
TORQUE CAPACITY
HEAT RESISTANCE

Designed especially for use in heavy-duty, high-speed engine equipped machines such as trucks, tractors, earth movers, graders, shovels, cranes, dozers and oil field units—

New MORLIFE® CLUTCHES and CLUTCH PLATES Give-

MORE Clutch Life (400% MORE)
MORE Torque Capacity (100% MORE)
MORE Heat Resistance (50% MORE)

See this NEW type MORLIFE clutch at the Road Show in Chicago—or get full information how this clutch improves the operation of heavy-duty, off-highway machines, by writing Department E—

ROCKFORD Clutch Division BORG-WARNER
312 Catherine Street, Rockford, Illinois, U.S.A.

CLUTCHES

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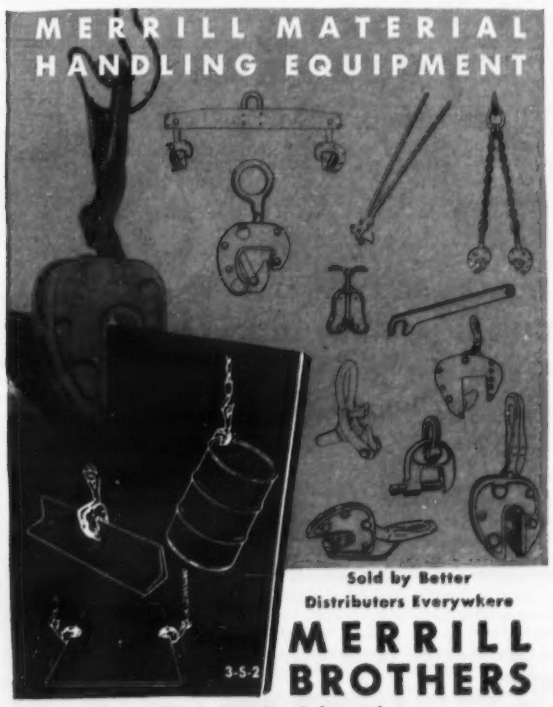

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MERRILL BROTHERS

For Interesting Information write

56-13 ARNOLD AVE., MASPETH, N. Y.

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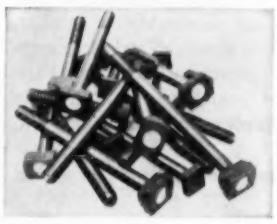
IMPACT DISCONNECT DEVICE protects machinery and equipment

Purpose of this impact disconnect device is to break a circuit to make a machine inoperative during excessive shock or vibration. It is mounted on machine or component which might be vulnerable to shock or vibration. Upon impact, it holds circuit open during the shock period and resets after the shock ceases. Consisting of relay, resistor, condenser and rectifier, it is wired with male and female plug for easy inclusion in any 110-v circuit. Price is $8.50. Made by **Fred Hebel Corp.,** 101 Factory Rd., Addison, Ill.

For more details circle NED-193 A7 on enclosed inquiry slip

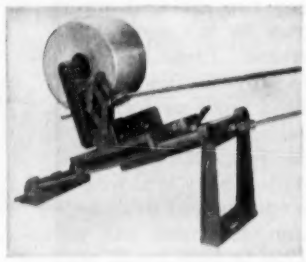
FORGED T-SLOT BOLTS of high-strength alloy steel



Forged of aircraft quality alloy steel and heat treated to a tensile strength of 150,000 psi, Blue Chip T and T-slot bolts are adaptable to wide range of production holding and clamping work. Lengths range from 2 to 6 in. in increments of ½-in. and in increments of 1 in. from 6 in. to any desired length. Complete range of sizes and types conform to JIC standards for all shop requirements. Made by **Jergens Tool Specialty Co.,** Dept. NED, 712 E. 163rd St., Cleveland 10, O.

For more details circle NED-194 A7 on enclosed inquiry slip

BACKSTAND IDLER for grinding and polishing lathes



Boots and seals used in the L-610 backstand idler protect all working parts from dust, dirt and abrasive particles. Intended for use on grinding and polishing lathes for belt grinding, its linkages consist of telescoping remote control arms and universal joints which permit mounting of both tracking and tension arms in any position. Belts of any length can be accommodated. Adjustment for all types and weights of belts from ½ to 6 in. wide is possible. Radially crowned aluminum alloy pulley has 10-in. diameter and 6 in. width, has sealed bearings and a Zerk lubrication fitting. Made by **Fenlind Engineering Co.,** 5604 Pike Rd., Loves Park, Ill.

For more details circle NED-195 A7 on enclosed inquiry slip

NEW! Uniform Pipe Identification System

Makes it easy and economical to standardize pipe marking

Free Planning Kit

- Shows you *how and where* to mark utility, process, and supply lines.
- Shows you how to *estimate costs.*
- Tells you how to *write specifications.*
- Simplified check list *figures your marking needs.*
- You can *compare actual costs* for painting and stenciling vs. the Brady System.
- *Planning Schedule* helps install marking system fast at lowest cost.
- You get *working samples* for testing.

If marking pipes is your responsibility, write for this valuable Planning Kit on your letterhead today.

W. H. Brady Co., 736 W. Glendale Ave., Milwaukee 9, Wis. 42

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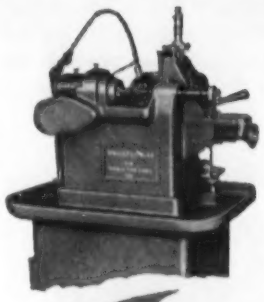

The feature of *independent* selection of speed, feed and indexing, which speeds machine set-up and provides a means for matching cutting speed and work feed to the material being machined, together with a "reserve of accuracy" built into the machine, has placed the Hamilton Precision Small Gear Hobber high in perference in the precision instrument field.

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IT'S A Hamilton Tool!
USE IT WITH CONFIDENCE

For more details circle NED-197 A7 on enclosed inquiry slip

The New Model 70T Unitrap* Small ½" Size Light Weight BIG Capacity

This new ½" size Unitrap fills the requirements of most low pressure/high condensate applications. It automatically adjusts to increases or decreases in pressure and to varied peak loads from 0-125 PSI. At 125 lb. pressure it will handle 1000 lbs. of condensate per hour.

This inexpensive Model 70T embodies all of the outstanding features of the Unitrap line — fast warm up — positive trapping — stainless steel working parts — peak efficiency at all pressures. Ideal for unit heaters and small processing machinery. Write for Bulletin 825D.

* Reg. Trade Name

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte, N. C.
Baltimore—Camden, N. J.—Chicago—Cleveland—Los Angeles—New York—Providence—Montreal—Toronto

For more details circle NED-198 A7 on enclosed inquiry slip

POWERFUL PORTABLE

BOSTITCH CAD Air Driven Stapler

Take the Bostitch CAD Stapler where the work is. For sealing overlapped flaps of corrugated containers, up to 90 lbs. of air pressure behind a fully supported staple gives you deep penetrating power.

Thumb-tip trigger, one-hand positioning and operation. Three types of bases: left and right "C" blades and straight clincher blade. Two models, each takes staple wire sizes with ¼", ⅜", ½" leg lengths.

Fasten it better and faster with

Look up "Bostitch" in U.S. or Canadian phone book, or write 681 Mechanic St., Westerly, R. I.

BOSTITCH
STAPLERS AND STAPLES

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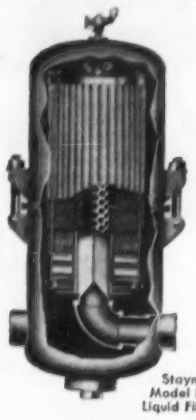
Double Action LIQUID FILTER

PROVES MOST ADAPTABLE

THE WORLD-WIDE USE of Dollinger filters on hundreds of liquids is proof of their adaptability to practically any requirement. All known filtering materials are available for any problem regardless of temperature, pressure, or efficiency desired. And, all Model ELS Liquid Filter bodies are available in steel, stainless, monel, herculoy and other non-corrosive metals. Construction can be according to ASME Code specifications.

Send for 12-page Bulletin 300. It contains illustrated data and recommended uses of Dollinger Liquid Filters. Dollinger Corporation, 49 Centre Park, Rochester 3, N.Y.



Staynew Model ELS Liquid Filter

DOLLINGER STAYNEW FILTERS

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BACKED *by Scintilla Division field service specialists.*

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THE FINEST ELECTRICAL CONNECTOR MONEY CAN BUY!

When you specify Bendix Scinflex* electrical connectors you can be certain of receiving the finest possible service from a product that is the result of advanced engineering design and the most modern production techniques.

Significant proof of the outstanding performance and reliability of these connectors is given by the fact that, within a relatively short period of time after the start of manufacturing operations, Scintilla Division of Bendix has achieved a recognized position of prominence in the electrical connector manufacturing industry.

Further reassurance is offered the user by the fact that Bendix Scinflex electrical connectors are backed by a nationwide field service organization and by especially trained, well-staffed and adequately stocked distributors.

AVIATION PRODUCTS: Low and high tension ignition systems for piston, jet, turbo-jet engines and rocket motors . . . ignition analyzers . . . radio shielding harness and noise filters . . . switches . . . booster coils . . . electrical connectors.

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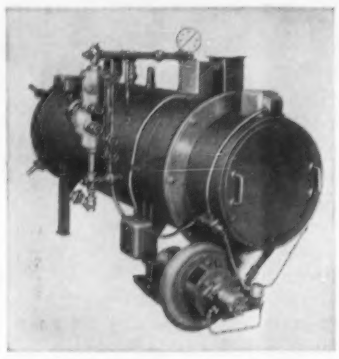
Bendix SCINTILLA DIVISION of Bendix AVIATION CORPORATION SIDNEY, NEW YORK

For more details circle NED-201 A7 on enclosed inquiry slip

PACKAGED STEAM GENERATORS
10 and 15-hp units designed for high-pressure service only

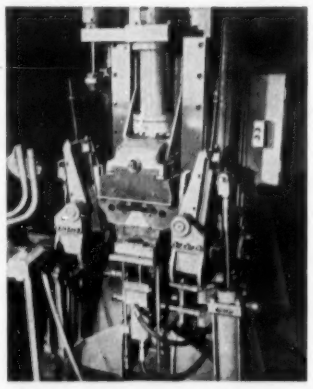


Junior additions to Steam-Pakette line of packaged steam generators are 10-hp model SPH56-10B and 15-hp model SPH56-15B, both available for high-pressure service only. Both have 49 sq ft of heating surface and can be fired by either light oil or gas, or combination. Automatic operation characteristic of larger models has been retained.

New models have two-pass construction, which requires no baffle to divert flow of combustion gases. Because of comparatively small volume of boiler, it can be rated for maximum working pressure of 150 psi. Four bolts hold compact assembly of motor, blower, fuel pump and fuel line solenoid valve to supporting bracket. Wedge pin clamps and asbestos rope sealing facilitate removal of rear end of boiler for inspection. Made by **York-Shipley, Inc.**, 85 Jessop Pl., York 4, Pa.

For more details circle NED-202 A7 on enclosed inquiry slip

TUBE BENDING PRESS
makes four or more bends/stroke at rate of 1700-3000 per hour



Two bends in each of two or more tubes can be made by the 6-T 6-ton vertical ram type tube bending press, capable of bending two different angles in the same U-frame. Press has its own hydraulic system. Steel and nonferrous tubing, the former up to 1-in. OD, can be continuously bent with a minimum of ovalization, flattening and wrinkling. Production is from 1700 to 3000 bends per hour.

Ram dies for producing two 90-degree bends in each piece retract after bending to release the tubing from the die grooves. Distance between legs of U-frames can be adjusted by changing wedge inserts. Bending of two slightly different angles up to 10 degrees in the same workpiece is also possible. Ram stroke is adjustable up to 10 in. Made by **Pines Engineering Co.**, 601 Walnut St., Aurora, Ill.

For more details circle NED-203 A7 on enclosed inquiry slip

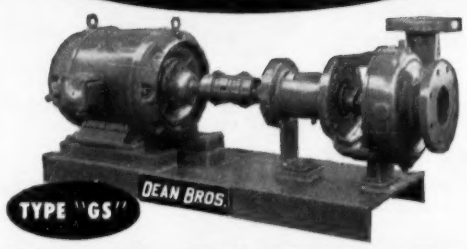
GEAR PROBLEMS? *Check with-* **FAIRFIELD!**

If you use gears in the product you make, we believe it will pay you, as it has others, to become acquainted with FAIRFIELD—the place where fine gears are produced to meet your specifications EFFICIENTLY, ECONOMICALLY! Fairfield's production facilities are unexcelled for making all kinds of accurate, automotive type gears such as are now finding wide use in all branches of industry: for tractors, trucks, and buses . . . for agricultural implements . . . for construction machinery . . . for machine tools. Ask for latest literature describing Fairfield's facilities. Your inquiry will receive prompt attention.

FAIRFIELD Manufacturing Co. 2335 S. Concord Road LAFAYETTE, INDIANA

For more details circle NED-205 A7 on enclosed inquiry slip

HERE'S AN ADVANCED, NEW PUMP LINE THAT'S QUALITY-BUILT AND PRICED RIGHT for GENERAL SERVICE for CHEMICAL SERVICE



STANDARD CENTRIFUGAL PUMPS

• 7 SIZES—up to 600 gal. per min. • TOTAL DYNAMIC HEAD—up to 275 ft. • TEMPERATURE OF LIQUID—from minus 40° F to plus 350° F.

- Enclosed Francis Vane Impeller for high efficiency and low NPSH requirements.
- Minimum shaft deflection assures long life.
- Removable Back Head for easy removal of Impeller and Cradle without disturbing piping connections.
- Stuffing Box adaptable, interchangeably, to packing or mechanical seal.
- Large cradle opening for free access to stuffing box area.
- Labyrinth, non-sparking Bearing Seals.
- Oil-lubricated Bearings.
- Spacer Coupling, standard equipment.
- Flanged construction throughout.
- Up to 60 hp, 3500 rpm, allowable Driver.

SEND FOR DESCRIPTIVE CIRCULAR NO. 190-A

DEAN BROTHERS PUMPS INC. EST. 1849 323 West 10th St., Indianapolis 7, Ind.

For more details circle NED-206 A7 on enclosed inquiry slip

New Pangborn Hydro-Finish

solves such cleaning problems as:

- ✶ deburring
- ✶ surface finishing
- ✶ finishing threaded sections
- ✶ improving cutting tool life
- ✶ maintaining dies and molds
- ✶ removing grinding lines
- ✶ removing heat treat scale
- ✶ preparing surfaces

Pangborn has redesigned the Hydro-Finish for added efficiency and easier handling. *Originating the use of air jet sluriators to eliminate pumps,* the new Hydro-Finish represents a lower investment as well as a lower maintenance cost. Optional equipment simplifies overall operation. Investigate Pangborn Hydro-Finish now!

For full details, send for Bulletin 1403, now! Write to: PANGBORN CORPORATION, 2400 Pangborn Boulevard, Hagerstown, Maryland. *Manufacturers of Blast Cleaning and Dust Control Equipment.* 1H

Pangborn BLAST CLEANS CHEAPER

For more details circle NED-204 A7 on enclosed inquiry slip

HALLOWELL

POSTURE STOOLS AND CHAIRS

LOOK AT THESE FEATURES

- Posture back rests, interchangeable and adjustable
- Spring steel back bars for proper posture
- Seats designed for comfort, plain or Presdwood covered
- Angle braces and angle legs for strength and rigidity
- Welded construction

HALLOWELL Posture Stools and Chairs are stocked and sold by leading shop equipment dealers. See your local man or write us for literature. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

HALLOWELL SHOP EQUIPMENT DIVISION — STANDARD PRESSED STEEL CO. SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-207 A7 on enclosed inquiry slip

FOR MAXIMUM CAPACITY IN MINIMUM SPACE . . .

THE VERSA MANIFOLD MOUNT VALVE

The Versa Manifold Valve has been especially designed for use where space is at a premium.

All piping can be installed, connected to manifold plate and even purged before installation of the valve itself. The valve is then simply bolted into place on the manifold plate. The valve proper, being independent of the piping, can be easily removed for service or replacement without disconnecting piping or disassembling the valve.

Versa Control Valves are available with any type of actuating device in sizes from 1/8" to 1" NPT, in 2-, 3-, 4- and 5-way type, and for pressures from partial vacuum to 500 PSIG.

All Versa Valves are triple pressure and functionally tested under water for guaranteed leakproofness.

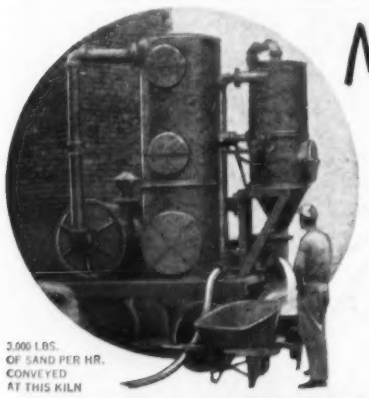
Over 110,000 Variations . . . Ready for Immediate Delivery!

VERSA

VERSA PRODUCTS COMPANY INC.
249-A SCHOLES STREET
BROOKLYN 6, N. Y.

Write today for your free copy of Versa's Catalog #14.

For more details circle NED-208 A7 on enclosed inquiry slip



3,000 LBS. OF SAND PER HR. CONVEYED AT THIS KILN

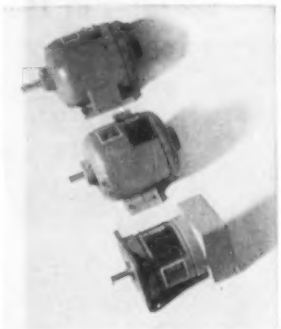
NOW CONVEY the MODERN Way... with SPENCER VACUUM

Spencer Pneumatic Conveying, available in both stationary and portable systems, is quick, sanitary, dust-free . . . allows flexibility impossible with mechanical conveying. Sizes from 2 HP to 100 HP, capacities up to 10 tons per hour for handling any dry and free flowing materials in granular or pulverized form, including chemicals, foods, metals, minerals, ashes. Request Bulletin 143.

The SPENCER TURBINE COMPANY
HARTFORD 6, CONNECTICUT

For more details circle NED-209 A7 on enclosed inquiry slip

TORQUE-BRAKE UNITS
provide continuous tension



Wide range of speed-torque characteristics is built into line of three compact 220-v, 3-phase, 60-cycle torque-brake units. Applicable to wire winding, they provide continuous tension. Torque can be decreased by reducing the applied voltage or increased if intermittent ratings are permissible in the application. Units can be supplied to meet specific requirements. Made by **B. A. Wesche Electric Co.**, 1622 Vine St., Cincinnati 10, O.

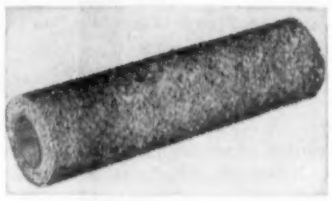
For more details circle NED-210 A7 on enclosed inquiry slip

HINGED LEVER SWITCH
compact unit has one moving part

Force and movement are held to close tolerances in hinged lever actuator TyniSwitch, available in two types with maximum pretravel of 0.250-in., minimum overtravel of 0.200-in. and movement differential of 0.020 to 0.080-in. Maximum operating forces are 10 and 18 grams and minimum release forces are 4 and 9 grams, respectively. Lever is easily removed or assembled to make it possible to use standard parts and add secondary operations to the lever for special requirements. Switch is UL and CSA listed and bears a 15-amp, 125 and 250-v ac rating. Made by **Detroit Controls Corp.**, TyniSwitch Dept., 800 Union Ave., Bridgeport, Conn.

For more details circle NED-211 A7 on enclosed inquiry slip

PAINT ROLLER
foam type produces stipple finish



Made of long wearing polyester foam, this Arsco-Foam stippler paint roller will produce a stipple finish with overall uniform texture. Foam covering is permanently attached to wood core which runs on heavy duty nylon bearings and fits regular 3/8-in. aluminum Flip-Lock frame. Stippler slips off for easy cleaning. Roller works with all types of paints, has no seams or fuzz, and works close into corners. It is available in 9, 7 or 4-in. sizes, either as a complete unit or refill. Made by **Arsco American, Inc.**, 3306 Edson Ave., New York 69, N. Y.

For more details circle NED-212 A7 on enclosed inquiry slip

6-IN-1 YARD MACHINE
performs function of 2½ ton crane, lift fork, bucket loader, dozer, car spotter and snow remover

The all-purpose, 6-in-1 Pettibone Speed Swing yard machine, with exclusive 180° boom swing and quickly changed attachments, eliminates the extra investment

required for several machines. The balanced frame and low center of gravity provide a high safety factor, especially for crane work. You'll value Speed Swing features: Torqmatic power-shift transmission, planetary axles, 3 forward and 3 reverse speeds, high flotation tires for off-pavement and over-track work, 2 or 4 wheel drive, 2 or 4 wheel steer, and optional heated cab. Ask for Bulletin P-264-N.

THE NEW YARD SENSATION — PETTIBONE SPEED SWING

Pettibone Mulliken Corp., 4700 W. Division St., Chicago 51, Ill. • SPaulding 2-9300

For more details circle NED-213 A7 on enclosed inquiry slip

DEGREASER! machinery shampoo

SPRAY OR BRUSH ON . . .

Takes cling out of oil and grease . . . emulsifies it . . . so that all dirt may be hosed off. Launders engines, lathes, machinery, faster, more completely than steam cleaning. Self scouring action brings out factory new appearance . . . provides accurate visual inspection. Where work will not withstand the use of water for rinsing, we can recommend suitable GUNK replacement. (GUNK is also an excellent paint brush cleaner.) Shipped in concentrated form . . . 55 gal. drum makes 500 gals. heavy-duty Degreaser! Genuine GUNK is sold in bulk sizes at better industrial wholesalers everywhere!

IMMEDIATE DELIVERY — 1 PINT OR A TANK CAR — CURRAN CORP. Mfg. Chemists LAWRENCE, MASS.

(CHICAGO PLANT) GUNK CHICAGO CO. • CHICAGO 38, ILL. • (LICENSEE)

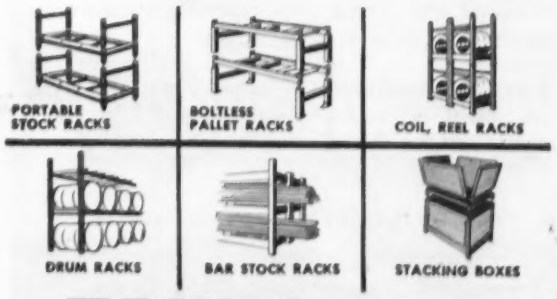
For more details circle NED-214 A7 on enclosed inquiry slip

Equipment Manufacturing storage racks that stack, cut time and handling costs, protect workers and stock, and speed inventory. E.M.I. racks are made of strong, welded tubular steel and are adjustable to fit any space or unit load. Special racks designed to your specifications. Field engineering service available on any installation.

Before you decide on a new warehouse, additional storage space or the purchase of stacking equipment write for our new catalog.

"Keep your materials WELL STACKED!"

"Write for our new Catalog"



EQUIPMENT MFG. INC.
21566 HOOVER ROAD • DETROIT 5, MICHIGAN
Materials Handling Equipment — Stacking Racks for Industry

For more details circle NED-215 A7 on enclosed inquiry slip

IMPROVED BALL JOINT DESIGN GIVES ADDED WALL THICKNESS

The design of this Ball Joint locates the ball socket in the same unit as the cross drilled hole. This provides additional wall thickness. A specially designed Ball Stud with a short neck enables *more than 250 lbs. force* to be applied on this unit. Swivel construction is assembled with a grease resistant neoprene washer to cushion movement and maintain proper tension. A spring clip allows rapid adjustment over great length, eliminating threaded rods and conventional set screws. Nut, lockwasher and spring Clip are permanently assembled on the unit to prevent loss. "EC" Ball Joints are stocked items for rod sizes 1/4" and 5/16". Present usage includes automatic transmission, heating, ventilating and air conditioning control applications.

Get complete information and prices. Write today!

TYPE "EC"

J. J. TOUREK MFG. CO.
ESTABLISHED 1920
1901 SOUTH KILBOURN AVENUE, CHICAGO 23, ILLINOIS
... UP TO 2-5/8" DIAMETER SINGLE AND MULTIPLE SPINDLE MACHINES ... THREADING • TAPPING • MILLING • DRILLING • GRINDING • POLISHING • PLATING • HEAT TREATING • SILVER SOLDERING
WORLD'S LARGEST MANUFACTURER OF "STANDARD" BALL JOINTS

For more details circle NED-216 A7 on enclosed inquiry slip

FAST

is the word for these efficient little

RIDGID

Drop-Head Dies!

Easy threading of ⅛" to 2" pipe or conduit

Snap size head you want into ratchet drive ring, from either side—it can't fall out. Dies reverse easily for close-to-wall threading. 00R and 0R, ⅛" to 1"; 111R and 11R, ⅛" to 1¼"; 12R, ⅛" to 2". Free carrier with sets. Conduit and special dies available. Real work-savers—at your Supply House!

RIDGID Bolt Threaders, too—No. 00R-B, ¼" to 1", National coarse and fine thread, efficient drop-head dies.

"Threaded Pipe — It's Tight — It's Best — Costs Less"

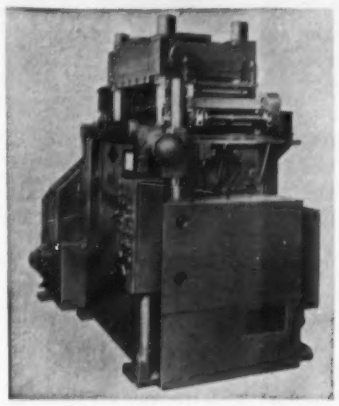
RIDGID
Work-Saver Pipe Tools

The Ridge Tool Company, Elyria, Ohio, U. S. A.

For more details circle NED-217 A7 on enclosed inquiry slip

STAMPING PRESS

automatic machine requires no pit, operates at 150 strokes per minute



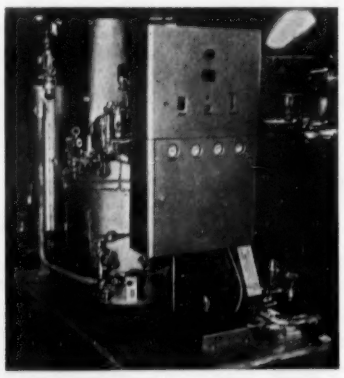
Only 7 ft 5 in. high with stroke and adjustment up, this 75-ton high speed automatic stamping press is a double-crank direct-drive machine that requires a floor space of 68 x 95 in. Installed without a pit, it is operated at the operator's shoulder level. Standard stroke is 2 in., maximum stroke is 4 in. and speed is 150 standard strokes per minute.

Press features complete clearance between head rod posts from front to back and right to left. Pneumatic clutch and brake are a single synchronized unit, mounted on antifriction bearings. Shut height is limited only by length of the guide posts. Roll type feed mechanism, an integral unit, will handle metal up to 13½ in. wide and up to 3/16-in. thick. Made by **Alpha Press & Machine, Inc.**, Dept. 3, 9281 Freeland Ave., Detroit 28, Mich.

For more details circle NED-218 A7 on enclosed inquiry slip

STEAM GENERATOR

produces 400-1750 lb of steam hourly at 80 per cent efficiency



Steam pressure of 200 psi is developed in 2 minutes from cold water by the model 4615 steam generator, rated at 60 bhp. It produces 400 to 1750 lb of steam per hour from 60° F feed water at 75 to 300 psi steam pressure. Automatic controls cause it to cycle on and off and change volume of steam produced to meet changing demands.

Generator produces steam at about 80 per cent efficiency at all output levels. A steam separator removes excessive moisture and water treatment particles from the steam. Burners are available for No. 2 fuel oil, natural gas and combination oil or gas. Packaged unit includes various safety controls and is ready to operate after making service connections. Overall dimensions are 84 x 48 x 70 in. Made by **Vapor Heating Corp.**, Dept. PR-57, 6420 W. Howard St., Chicago 31, Ill.

For more details circle NED-219 A7 on enclosed inquiry slip

SURPRISE-PROOF LABELS

T&B fittings are now engineered right down to the label on the box. If you've ever blown your top over a misleading, illegible or incomplete label, you know what a difference that makes. An exact count . . . a picture and full description of the fitting, including the metal and finish used . . . complete sizes and dimensions . . . types of cable it can be used with . . . and on case-lots, even the shipping weights—all these mean instant identification and easy handling and storage. End label-irritation. Specify T&B!

Reddy sez: "You never know watcha gonna find inside . . . unless it's labeled the T&B way!"

THE THOMAS AND BETTS CO., INC.
24 Butler Street, Elizabeth 1, N. J.
Thomas & Betts, Ltd., Montreal, P. Q., Canada

For more details circle NED-220 A7 on enclosed inquiry slip

Now you can separate stacked steel sheets more efficiently than ever before . . . save time and prevent damage to dies or finished surfaces. Completely new Dings Magnetic Sheet Floaters assure automatic separation of thin, oily sheets or even heavier gauge stock for faster, easier handling. *The unit is totally enclosed in stainless steel* to prevent damage to Alnico blocks or loss of magnetic efficiency through attraction of stray iron.

Try a new Dings Magnetic Sheet Floater in your shop on a money-back guarantee. Write for details.

Dings

DINGS MAGNETIC SEPARATOR CO.
4758 W. ELECTRIC AVE.
MILWAUKEE 46, WISCONSIN

For more details circle NED-221 A7 on enclosed inquiry slip

For PRESS STAMPING PRODUCTS WITH CURVED OR STRAIGHT LINE MARKING

PRESS STYLE **STEEL TYPE HOLDER**
MODEL PH-50

Body and press shank are one piece with flanges to hold type chase in position. Type chase with almost any size or number of characters can be removed and inserted without operator placing hands in press.

Write for Catalog 100

Mecco SAFETY MARKING TOOLS **M.E.CUNNINGHAM CO.**
1055 CHATEAU STREET, PITTSBURGH 33, PA.
A PRODUCT OF THE MARKING DEVICE INDUSTRY

For more details circle NED-222 A7 on enclosed inquiry slip

NEW! NON-SPARK!

Tough, all-plastic Schrader® blowgun

Wherever danger of electrical disturbance scratching or breakage exists, in arsenals, chemical plants, or many special departments in general industry, Schrader's NEW blow gun adds practical safety. Molded in one piece from tough non-conductive plastic to the highest Schrader standards of precision, this new gun is light as a feather for long use without fatigue, gives full line pressure air blast by button control. Parts are quickly replaceable and interchangeable. Immediately available in ¼" thread size.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

For more details circle NED-223 A7 on enclosed inquiry slip

get this

FREE

illustrated bulletin

Learn how easy it is for anyone to read temperatures up to 3000 F. with

ALNOR PORTABLE PYROMETERS

Wherever heat measurement is a problem—in the laboratory, shop, or in the field—you'll find the completely self-contained, portable Alnor Pyrometer the economical answer. Product of skilled, specialized instrument craftsmen, an Alnor will provide the consistent accuracy for all jobs—and at a cost of less than $100.00.

Get your copy of Bulletin 4434 now! Send this ad on your letterhead to: Illinois Testing Laboratories, Inc. Room 529, 420 No. La Salle Street, Chicago 10, Illinois.

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

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SCREW MACHINE	$14.00 per thousand
COLD HEADED	$5.20 per thousand
SAVING	$8.80 per thousand

How about your fasteners or small parts? Have you **had** an estimate from HASSALL?

This is a typical example of how HASSALL saves thousands of dollars for cost-conscious manufacturers in hundreds of industries. This part is made in one piece by cold heading . . . the part is not only lower in cost but also stronger and just as accurate. Savings amount to $8.80 per thousand and this manufacturer used hundreds of thousands a year!

WRITE FOR CATALOG . . . . . with it we will send you our popular decimal equivalent wall chart.
John Hassall, Inc., Box 2178 Westbury, L. I., N. Y.

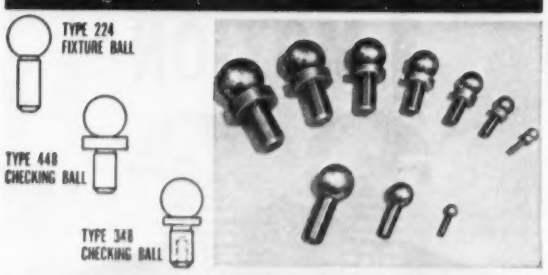
HASSALL

SINCE 1850 — NAILS, RIVETS, SCREWS AND OTHER COLD-HEADED FASTENERS AND SPECIALTIES

▲ For more details circle **NED-225 A7** on enclosed inquiry slip ▲

High-Precision Stainless Steel

TOOLING BALLS



- For gage, jig and tool work. Center of ball provides positive reference point for work in any plane.
- Highly accurate. Ball size held to ±.0001" for fixture balls; ±.00002" for checking balls.
- Durable; corrosion-resistant. Made of Type 440-C stainless steel, hardened to 55-58 Rockwell C.
- In stock: Types 224 and 448 in 7 ball sizes, 1/4" through 1" by 1/8" steps; Type 348 with 1/2" ball and 6-32 tapped shank. Other sizes to order.

WRITE FOR price list and ASTE Data Sheet.

INDUSTRIAL TECTONICS, Inc.

3663 Jackson Rd., Ann Arbor, Michigan
18319 Santa Fe Ave., Compton, California

PRECISION BALLS OF ANY SIZE OR MATERIAL
ANTI-FRICTION BEARINGS FOR SPECIAL REQUIREMENTS
TOOLING BALLS — MASTER BALLS — SPHERICAL FINISHING

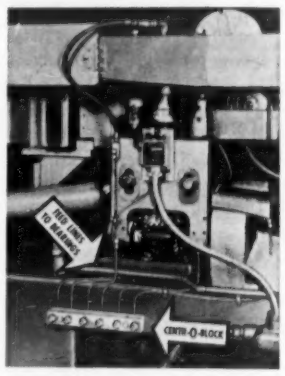
▲ For more details circle **NED-226 A7** on enclosed inquiry slip ▲

DUCTILE IRON PIPE FITTINGS
withstand pressures up to 18,000 psi

Line of ductile cast iron pipe fittings includes K pipe lock couplings, screwed and flanged fittings and companion flanges. Fittings withstand stretching on screwed joints without leakage. In pressure tests, 2½-in. ell fittings 0.219-in. thick withstood 10,000 psi before failure. One-inch ells 0.141-in. thick withstood pressure of 18,000 psi. Improved corrosion resistance of ductile iron is due to spheroidal rather than laminar arrangement of the included graphite. Made by **Kuhns Brothers Co.,** 1854 McCall St., Dayton 1, O.

▲ For more details circle **NED-227 A7** on enclosed inquiry slip ▲

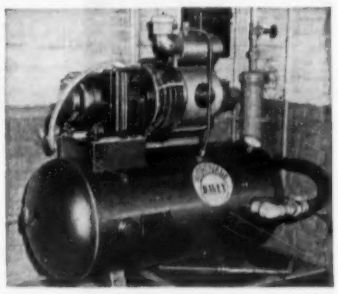
LUBRICATION SYSTEM
all grease fittings are centralized



One or more manifold blocks, threaded for insertion of standard hydraulic grease fittings, comprise this low cost centralized lubrication system. Blocks are bolted to accessible locations on the machine, with rigid or flexible feed lines connecting bearings to inlet ports of the blocks. Fittings can be contacted by any standard manually or power operated lubrication device, such as lever gun, bucket pump or power lubricator. Made by **Lincoln Engineering Co.,** 5782 Natural Bridge Bridge Ave., St. Louis 20, Mo.

▲ For more details circle **NED-228 A7** on enclosed inquiry slip ▲

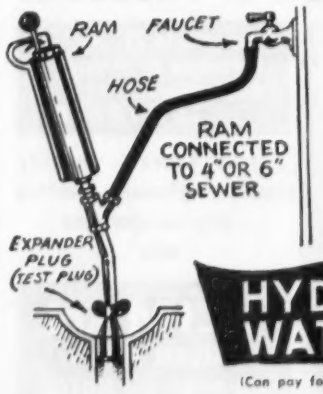
AIR COMPRESSOR
tank mounted 5-hp rotary unit



Maximum working pressure of the Hydrovane tank-mounted rotary air compressor is 200 psi for continuous operation. Intermittent operation can be at 250 psi. Unit has a displacement of 21 cfm, is direct-connected to an 1800 rpm 5-hp electric motor and is available with horizontal or vertical air tank. Modulation, start-stop or combination modulation-stop-start controls are offered. Air is compressed quietly with a minimum of vibration and temperature rise. Made by **Davey Compressor Co.,** Myers Ave., Kent, O.

▲ For more details circle **NED-229 A7** on enclosed inquiry slip ▲

Enjoy 30 Day Free Trial!



Easily clears the most stubborn drain and sewer stoppages

The ideal plumbing service tool for maintenance men!

HYDRAULIC WATER RAM

(Can pay for itself in one application!)

Why lose time, suffer inconvenience, waste dollars on (needless) costly plumbing service? The Hydraulic Water Ram clears severest blocked drain lines and sewers in minutes. No chemicals, no snakes, no electric cables, no pushing through. Saves costly outside help, or expensive torn up piping. Uses IMPACT, (HYDROSTATIC) a basic scientific principle of POSITIVE HYDRAULIC POWER. Shatters hard grease, debris, other blockage into fragments easily flushed down to main. Works perfectly, vent or no vent! Services up to 6" pipe. Works perfectly on all types of clogged toilets, sinks, sewers, etc. Can pay for itself in a single application. Nothing to wear out. Good for a lifetime. Thousands in use, including over 3,000 in government agencies. You risk nothing. Write for details on how to get free 30 day trial at our expense.

Write for Information, Prices, Details of Free Trial Offer!

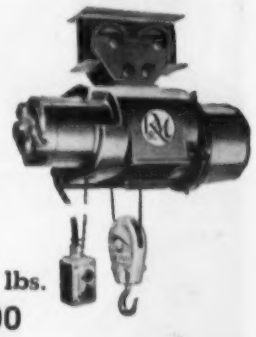
HYDRAULIC MANUFACTURING CO.

Dept. ND-1 Kiel, Wisconsin

▲ For more details circle **NED-230 A7** on enclosed inquiry slip ▲

R&M HOISTS • CRANES • WINCHES

GET MORE "BIG HOIST" FEATURES in Robbins & Myers "J" HOISTS

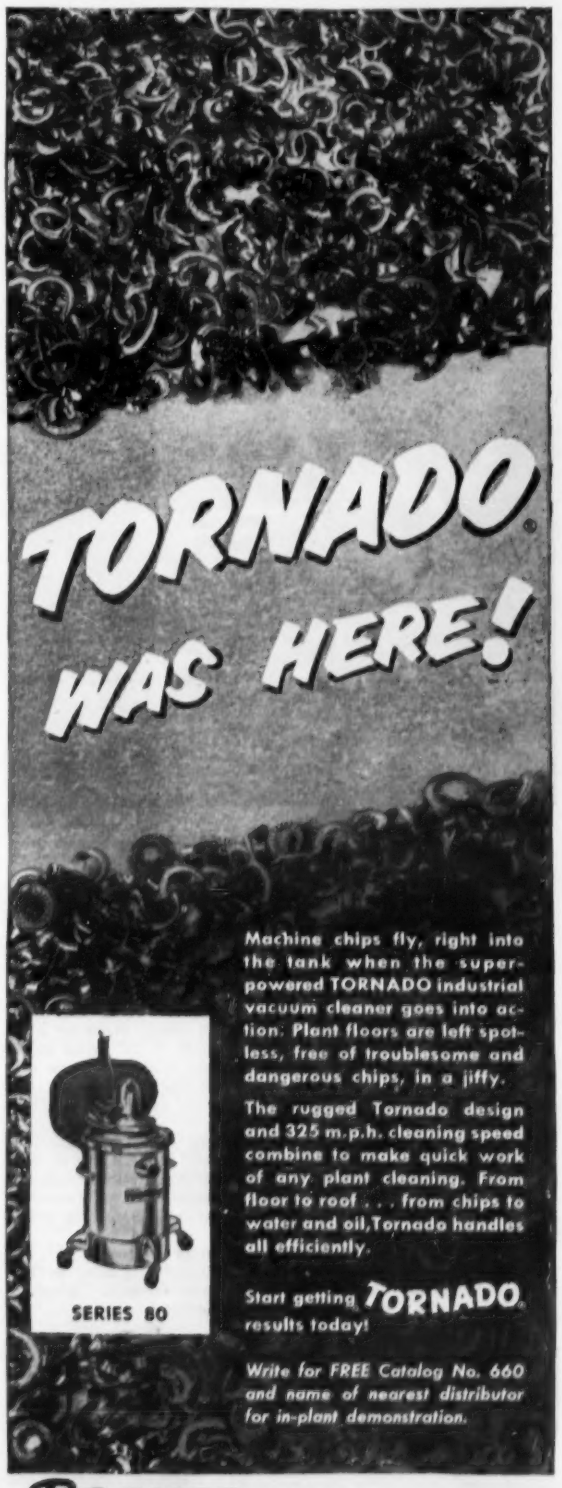


capacities 500 to 4000 lbs.
prices start at $295.00

"Big Hoist" features of the "J" include: Heat treated gears, precision ground shafts, sealed or splash lubricated ball bearings, plow steel cable, rugged limit switch, ball bearing sheave block, forged steel hook, shoe-type motor brake, Weston-type load brake, push-button control, hook, lug, or plain trolley mounting. Speed choice 15, 19, or 30 fpm, lift choice 10 or 20 feet. Write for Bulletin 851-B.

take it up with
ROBBINS & MYERS, INC.
SPRINGFIELD, OHIO | BRANTFORD, ONTARIO

▲ For more details circle **NED-231 A7** on enclosed inquiry slip ▲



Machine chips fly, right into the tank when the super-powered TORNADO industrial vacuum cleaner goes into action. Plant floors are left spotless, free of troublesome and dangerous chips, in a jiffy.

The rugged Tornado design and 325 m.p.h. cleaning speed combine to make quick work of any plant cleaning. From floor to roof . . . from chips to water and oil, Tornado handles all efficiently.

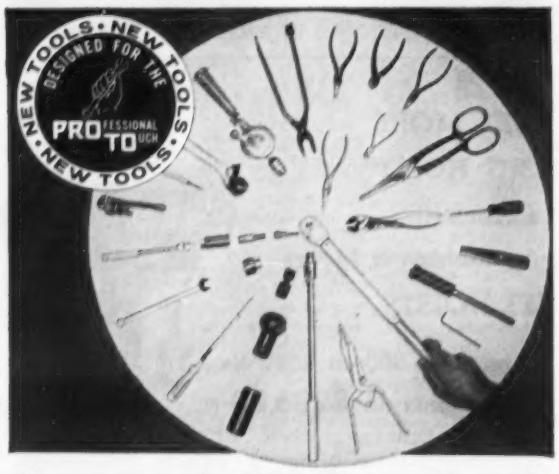
Start getting TORNADO results today!

Write for FREE Catalog No. 660 and name of nearest distributor for in-plant demonstration.

BREUER ELECTRIC MFG. CO.

5116 North Ravenswood Avenue • Chicago 40, Illinois
"See us at the Plant Maintenance Show, Public Auditorium, Cleveland, Ohio, January 28-31, Booth 422".

▲ For more details circle **NED 232 A7** on enclosed inquiry slip ▲



New Tools for Your Needs

Further Expand PROTO's Huge Professional-Quality Line

With the thousands of other proven standard and special PROTO tools, and hundreds of *new* tools, developed to meet the exacting requirements of your job...you can build a complete matched set, getting time-saving designs, high-quality, and long service. See your PROTO dealer. Send 10¢ for catalog of entire line to **PROTO TOOLS** 5696
2235 Santa Fe Ave.,
Los Angeles 54, Calif.

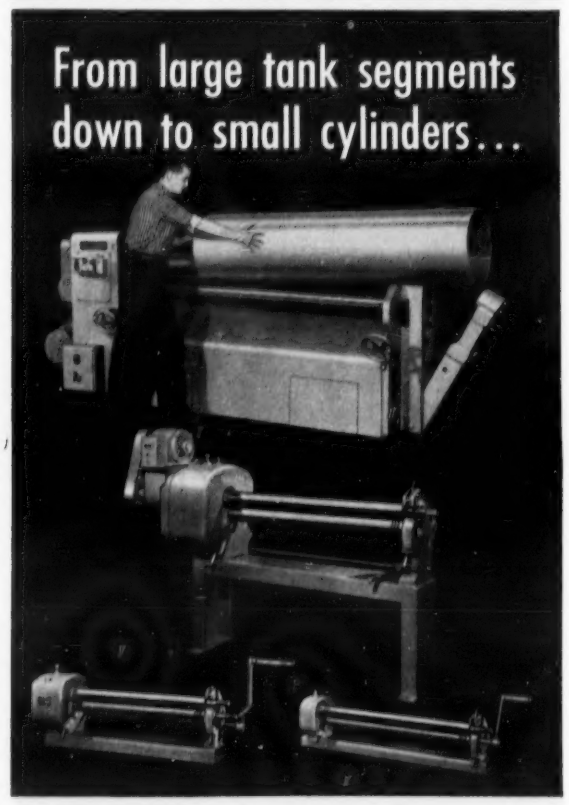
Eastern Factory, Jamestown, N. Y.
Canadian Factory, London, Ont.

PROTO TOOLS
PROTO means PROfessional TOols

Forging Ahead Through Leadership, Quality, Service and Understanding

For more details circle NED-234 A7 on enclosed inquiry slip

From large tank segments down to small cylinders...



Niagara Slip Roll Formers can turn out better work faster, at greater profit

Name the job! In the truly complete Niagara line . . . *most complete of them all* . . . you're sure to find the Slip Roll Former best suited to your sheet rolling needs. Working with lengths up to 120" and thicknesses up to 5/16" mild steel, Niagara Slip Roll Forming Machines are available in an unusually wide range of power and hand operated models for forming light and heavy pipe; stacks; drum, pail, tub and other container bodies.

Featuring Pinch Type Rolls, modern Niagara Slip Roll Forming Machines produce commercially true cylinders virtually free from flat spots, using thin materials as well as thick . . . and because of Niagara's unique slip roll features, completed cylinders can be removed easily and quickly without distortion, saving time and costs.

Find out how Niagara Slip Roll Formers (Series 6", 4", 3", 2", 1½" and 1") can turn out better work at greater profits for you. Write for Niagara's new, illustrated Bulletin 77 today. It will be mailed free . . . without obligation.

NIAGARA

America's Most Complete Line of Presses, Shears, Other Machines and Tools for Plate and Sheet Metal Work

NIAGARA MACHINE & TOOL WORKS • BUFFALO 11, N. Y.
DISTRICT OFFICES:
Buffalo • Cleveland • Detroit • New York • Philadelphia
Dealers in principal U. S. cities and major foreign countries

For more details circle NED-235 A7 on enclosed inquiry slip

SELF-FED POWER SCREWDRIVER

automatic portable tool drives up to 60 screws with single loading

Screws are driven automatically at any angle as fast as the operator can pull the trigger of this Semspak portable, self-feeding, pneumatic-power screwdriver. Each screw self-feeds into the driving jaws and is held tightly in place until started into the workpiece. Weighing only 6½ lb, tool is easy to maneuver, and operator can always see the driving head, screw and mounting hole.

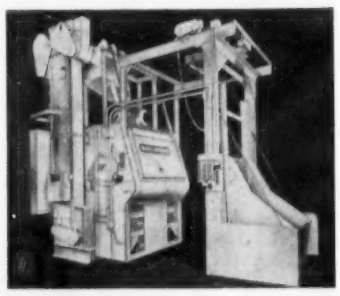
Screw supply is replenished by merely replacing the screw cartridge. An automatic electric hopper loads the cartridges with sixty No. 8 screws or slightly fewer No. 10 screws, and several loaded cartridges can be kept ready for instant use. Tool will handle 7/16-in. to 1½-in. long screws with round, pan, oval, flat, fillister, hexagon, slotted or Phillips heads.

Single air hose supplies power to the tool. Torque is easily adjusted, and bits can be changed readily. Made by **Illinois Tool Works,** Shakeproof Div., 2503 N. Keeler Ave., Chicago 39, Ill.

For more details circle NED-236 A7 on enclosed inquiry slip

BLAST CLEANING MACHINE

batch type has 14-cu ft capacity offered with two separator types



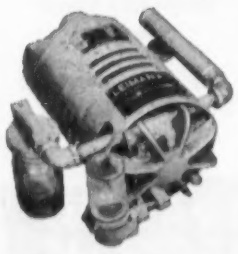
Metal parts that can withstand tumbling action are cleaned of sand, scale, oxides and other contaminants by this 14-cu ft size Super Tumblast airless abrasive blast cleaning machine. Operated manually or automatically, its abrasive-hurling wheel throws 830 lb of abrasive per minute, spreading it uniformly over the cleaning chamber.

Recently announced long-life blades, strain-free blade holding device, easy access wheel guard housing and revised system of Long-Lyfe wheel guard liners minimize maintenance. Either of two separator types removes all sand and contaminants from abrasive. Machine makes use of a steel flight conveyor, sealed power-operated door and alloy steel wear points. Single button actuates entire sequence from loading to unloading. Made by **Wheelabrator Corp.,** 1128 S. Byrkit St., Mishawaka, Ind.

For more details circle NED-237 A7 on enclosed inquiry slip

If your VACUUM or PRESSURE requirements are in this range...

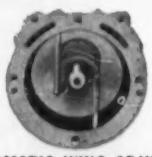
Vacuums to 27" Hg.
Pressures to 20 psig.
Displacement:
3.6 to 7.2 c.f.m.



MODEL K. 3.6 c.f.m. ½ hp. 13½" long—12" wide—7" high
MODEL K3. 7.2 c.f.m. ½ hp. 16" long—15" wide—9" high

...save space — simplify mounting—eliminate troubles —improve operation with

LEIMAN
INTEGRAL ROTARY AIR PUMP and MOTOR



AUTOMATIC WING ADJUSTER
Patented Leiman feature adjusts automatically, pushes steel wings into contact with cylinder wall, assures constant seal, prevents wings from sticking or binding.

FEATURES INCLUDE: Steel wings for long wear—automatic wing adjuster—ball bearings—automatic oiler—fan cooling—noiseless operation—automatic thermal overload protection for motor—inlet filter and outlet separator—oil-free air. Plus—famous Leiman dependability and lifetime performance.

Write for 12-page catalog giving details
LEIMAN BROS., Inc.
167 Christie St., Newark 5, N. J.

For more details circle NED-238 A7 on enclosed inquiry slip

Free Technical Bulletin on Surface Measurement

gives all the meat of ASA Standard B46.1-1955 on surface roughness, waviness and lay, plus helpful supplementary material. Arranged for easy reading and convenient reference. Includes these sections:

- Basic definitions — with profile records of typical surfaces.
- How to designate the characteristics of roughness, waviness and lay, on drawings.
- How to measure those characteristics.
- Arithmetical and r.m.s. average roughness height.
- How the Profilometer® measures average roughness height.
- Instrument characteristics for roughness measurement — as specified by the standard, and as provided by the Profilometer.

It's timely — authoritative — comprehensive.
Write today for *BULLETIN LT18.*

Profilometer is a registered trade-mark.

MMC MICROMETRICAL MANUFACTURING COMPANY
333 S. Main St. Ann Arbor, Michigan

For more details circle NED-239 A7 on enclosed inquiry slip

Tests prove

MACHINE CUT STENCILS ARE BEST FOR ADDRESS MARKING

You can cut a stencil in ½ minute on a Diagraph-Bradley Stencil Machine.

D-B machine cut stencils will give you permanent, more readable addresses for less cost than any known method of address marking and assures maximum safety from shipping loss.

All D-B Machines are built to meet Gov. Spec. GG-S-747.

AND ROL-IT-ON IS BEST FOR STENCILING

Rol-It-On High Speed "Roller Process" Stencil System has revolutionized stenciling and address marking. Economical because Rol-It-On ink goes 4 times as far as brush stenciling.

No wear and tear on stencils.

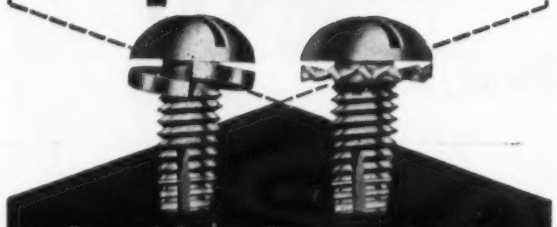
Common carriers prefer and recommend stencil addressing.

Military standards specify stencil addressing.

DIAGRAPH-BRADLEY INDUSTRIES Inc.
P. O. BOX 269 HERRIN, ILLINOIS
DISTRIBUTORS IN ALL PRINCIPAL CITIES

For more details circle NED-240 A7 on enclosed inquiry slip

2 OPERATIONS 1 MOTION



Tap and Fasten Simultaneously with
EATON-RELIANCE
Thread-Cutting Springtites & Sems

Send for FREE Engineering Bulletin S-49A

RELIANCE DIVISION
EATON MANUFACTURING COMPANY
509 CHARLES AVENUE MASSILLON, OHIO
SALES OFFICES: NEW YORK CLEVELAND DETROIT CHICAGO ST. LOUIS SAN FRANCISCO MONTREAL

For more details circle NED-241 A7 on enclosed inquiry slip

Widely used under dusty conditions in sandblast operations . . . for protection against fumes, smoke, etc.

Universally liked by men and management: *Extremely light* (5½ pounds) with nothing to tie or bind around the neck. * * * *Comfortable fit.* The light, flexible hood is evenly distributed over operator's head and shoulders. Complete freedom of head movements. * * * *Seamless rubber hood* — light and impervious to dust, but also extremely durable. * * * *Wide range of vision.* The glass window is tightly sealed against a soft rubber gasket. * * * *Utmost protection.* Workmen, when equipped with Purair Helmets, cannot inhale even the finest or most concentrated injurious dusts.

Approved by U. S. Bureau of Mines. Ask for Bulletin 97 and prices.

THE W. W. SLY MANUFACTURING CO.
4748 Train Avenue • Cleveland 1, Ohio
OFFICES IN PRINCIPAL CITIES

▲ For more details circle NED-242 A7 on enclosed inquiry slip ▲

Get the Facts on **TOLEDO PORTABLE POWER DRIVES**

TOLEDO No. 78
Power Drive—with wrenchless chuck, forward or reverse rotation, ¼" to 2" capacity— a real work saver!

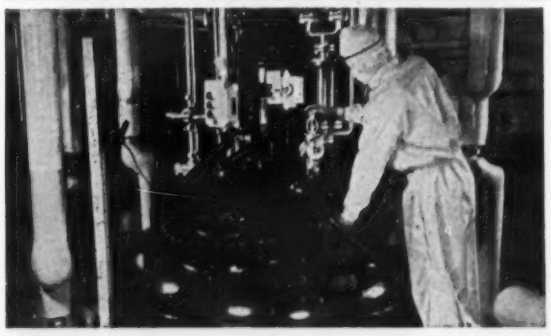
TOLEDO No. 68
Power Drive—threads, cranks, turns, pulls—dozens of uses—carry it anywhere!

Send for BULLETINS No. 78 and No. 68 TODAY

BUILDERS OF THE WORLD'S FINEST PIPE TOOLS
TOLEDO
PIPE THREADERS • PIPE WRENCHES • PIPE MACHINES
THREADED PIPE

THE TOLEDO PIPE THREADING MACHINE CO.
TOLEDO 4, OHIO

▲ For more details circle NED-243 A7 on enclosed inquiry slip ▲



Glassed Steel . . . your best protection against acids-alkalies

Glassed steel by Pfaudler combines the corrosion resistance of glass with strength of steel. Moderate in cost, it has proved the best protection against corrosion or contamination.

Pfaudler acid-alkali-resistant glassed steel equipment is available in the following types:

Reactors in standard sizes from 5 to 4000 gals (also custom built to your needs), columns (Turbogrid and bubble-cap types), dryers, heat exchangers, storage tanks, stacks, pipe, fittings, valves, solvent recovery systems, etc.

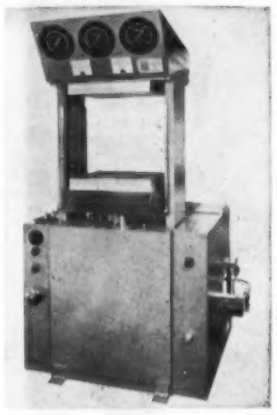
If corrosion is a problem to you in your plant operation, ask for "1956 Buyer's Guide."

THE PFAUDLER CO.
Rochester 3, N. Y.

SPECIALISTS IN CORROSIONEERING

▲ For more details circle NED-244 A7 on enclosed inquiry slip ▲

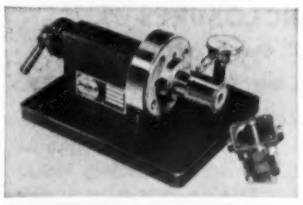
HYDRAULIC PRESS
300-ton double-acting model



Wide range of experimental pressing operations requiring maintenance of precise pressure can be conducted on this 300-ton double-acting hydraulic press. Three pressure gages cover ranges from 0 to 20,000 lb, 0 to 120,000 lb and 0 to 600,000 lb. Any selected pressure from 1000 to 600,000 lb can be applied and indefinitely maintained with an accuracy of ±5 per cent. Hi-Lo hydraulic system checks ram speed before point of close. Pyrometers give temperature of steam platens. Made by **Pasadena Hydraulics, Inc.**, 273 N. Hill Ave., Pasadena 4, Calif.

▲ For more details circle NED-245 A7 on enclosed inquiry slip ▲

INSPECTION FIXTURE
uses stock collet arbor and spindle



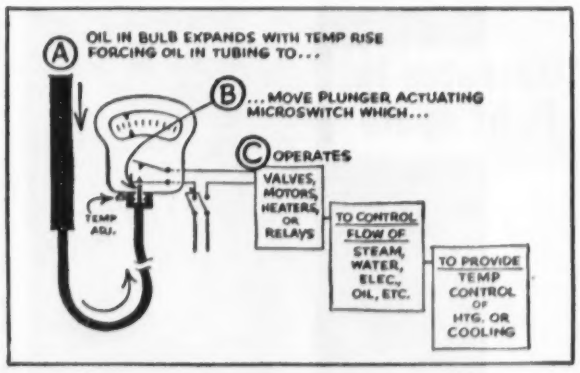
Stock parts comprise this inspection fixture for checking concentricity and/or squareness. It combines a Tork-Lok collet arbor and a zero spindle inspection fixture. Various parts can be checked on one fixture with the interchangeable collet. Made by **N. A. Woodworth Co.**, 1300 E. Nine Mile Rd., Detroit 20, Mich.

▲ For more details circle NED-246 A7 on enclosed inquiry slip ▲

PORTABLE HAND LAMP
for use in flammable atmospheres

Bearing UL approval for Class I, Group C or D locations, this explosionproof portable hand lamp can be used in flammable atmospheres, such as interiors of fuel tanks. It weighs less than 11 lb and uses a 150-w PAR-38 reflector type spot or flood lamp in its type EVH70 fixture. Safe use in the presence of ethyl-ether vapors, ethylene, gasoline, butane, propane, naphtha, natural and other gases is possible. Cone-shaped aluminum body has heat dissipating fins and its plastic coated fiber handle remains cool. Special version is available for use in areas where moisture is prevalent. Made by **Crouse-Hinds Co.**, 7 North St., Syracuse, N. Y.

▲ For more details circle NED-247 A7 on enclosed inquiry slip ▲



SIMPLE • DEPENDABLE • AUTOMATIC

TEMPERATURE CONTROL

Cost—only about $100!

As simple as A-B-C...this Sarco ELECTRIC INDICATING temperature control! Just check these advantages:

1. Adjustable, indicating, accurate to ±½°F.
2. No gadgets that call for a technician to read and repair. So simple, so trouble-free . . . maintenance seldom, if ever, needed.
3. Turn one knob to change temperature control setting. Large, easy-to-read scale.
4. Offers you many sequence combinations such as:—step heating, heating and cooling, wide limit control.

Write for Bulletin 1025 to Sarco Company, Inc., Empire State Bldg., New York 1, N. Y.

2100-P

SARCO

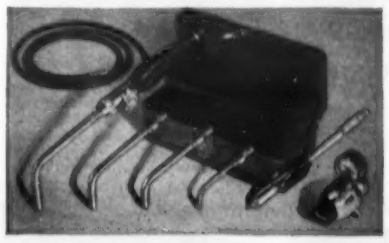
▲ For more details circle NED-248 A7 on enclosed inquiry slip ▲

Fast · Clean · Economical

Prest-O-Lite 5-in-1 OUTFIT
Trade-Mark

For All Soldering, Heating, and Brazing Needs

Save time and money on all soldering, heating, and light brazing jobs with this economical, air-acetylene outfit. No pumping, priming, or generating to waste time. No smoke or soot to clean up. One handy kit with a flame for every job. Ask your LINDE jobber for a demonstration. Or write LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N. Y. In Canada: Union Carbide Canada Limited, Toronto.



GET IT FROM YOUR **LINDE** JOBBER

The terms "Linde" and "Prest-O-Lite" are registered trade-marks of Union Carbide and Carbon Corporation.

▲ For more details circle NED-249 A7 on enclosed inquiry slip ▲

Each of these 7 Edmont lines is job-fitted to cut costs

Neox No. 924 . . . 8 styles

NEW "FLEXIBLE NEOPRENE" GLOVE COATING now makes Edmont's "Neox" gloves the most comfortable neoprene gloves available. Resist cutting, abrasion, oils, solvents, heat. Uniform in quality.

Grab-It No. 62W . . . 11 styles

NON-SLIP GRIP, WET OR DRY, makes Grab-Its the safest general handling gloves on the market. Rough textured natural rubber coating. Curved-finger wing-thumb pattern gives perfect fit.

Werx No. 151 . . . 2 styles

OUTWEARS CANVAS 4 TO 1, and costs far less than goatskin. Edmont's Werx gloves, impregnated with plastic, are ideal for many jobs of material handling. Provide excellent grip and dexterity. Lint-free. Washable.

Monkey Grip No. 31 . . . 13 styles

JOB-FITTED FOR ABRASIVE WORK: Special vinyl coating on Monkey Grip gloves insure uniform long wear. Edmont's exclusive seamless palm, wing thumb, curved-finger pattern fits every part of the hand.

Redmont No. 938 . . . 6 styles

HEAVY DUTY LIQUID-PROOF Redmont gloves have a 30% thicker coating of red Neox (reinforced neoprene) with special non-slip finish. Wing thumb, curved finger, seamless palm for comfortable wear.

Grappler No. 363 . . . 5 styles

EXCEPTIONAL WET GRIP is provided by Edmont Grapplers. Specially reinforced plastic coating is for heavy duty service. Outwears ordinary plastic coatings up to 50%.

Snorkel No. 404 . . . 3 styles

SUPER-FLEXIBLE LIQUID-PROOF GLOVES. Edmont Snorkels combine working ease with tough protection. Abrasion-resistant vinyl coating has special finish that gives outstanding wet or dry grip. 2-piece jersey liner is Edmont's hand-fitting wing-thumb, curved-finger pattern.

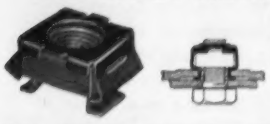
FREE TEST OFFER TO LISTED FIRMS: Tell us your operation, materials handled and temperature condition. We will recommend glove and coating that best fit job and supply samples for on-the-job testing.

EDMONT MANUFACTURING COMPANY
1240 Walnut Street, Coshocton, Ohio
In Canada write MSA, Toronto

▲ For more details circle NED-250 A7 on enclosed inquiry slip ▲

TINNERMAN
SPEED GRIP®
NUT RETAINERS

THE MOST ADVANCED METHOD



STANDARD — Eliminate welding, clinching, staking, hole misalignment and paint clogging! SPEED GRIPS are easily attached by hand. "Mechanical hands" hold nut in bolt-receiving position.

OF ATTACHING SQUARE NUTS

SELF-ANCHORING — Contains a special locking feature for permanent retention. High-torque holding power. Rattle-proof, cannot be dislodged even with abusive handling.

TO SHEET METAL PANELS • • •

"J" TYPE — Snaps over panel edges by hand; ideal for blind locations. Self-retained in bolt-receiving position. Extrusion in retaining leg assures constant alignment.

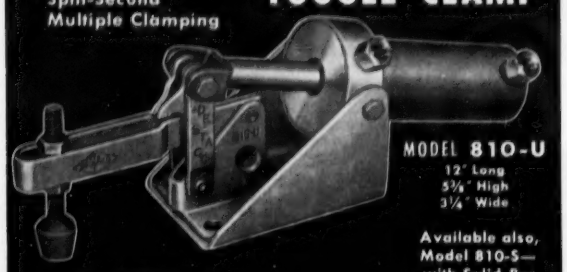
Write for Bulletin No. 335

TINNERMAN PRODUCTS, INC.
BOX 6688, DEPT. 12, CLEVELAND 1, OHIO

For more details circle NED-251 A7 on enclosed inquiry slip

presenting...the NEW
DE-STA-CO Clamp-Omatic
AIR OPERATED
TOGGLE CLAMP

for Positive Split-Second Multiple Clamping



MODEL 810-U
12" Long
5⅜" High
3¼" Wide

Available also, Model 810-S— with Solid Bar

- MORE RUGGED
- MORE COMPACT
- MORE VERSATILE
- LONGER LASTING

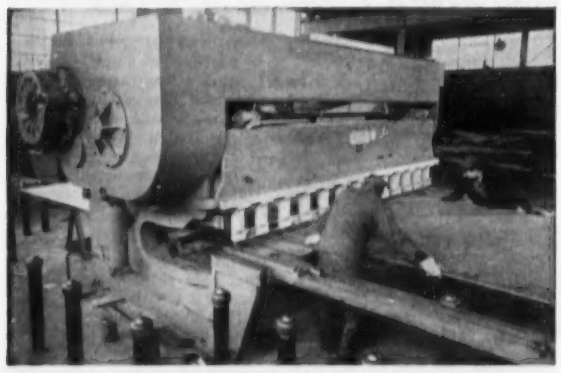
Holding Pressure to 750 Pounds with Normal Air Line Pressure of 90 Pounds. Weight 4 lbs. 4 oz.

Write today for Literature on these NEW DE-STA-CO CLAMP-OMATICS— Models 810-U and 810-S

DETROIT STAMPING COMPANY
WORLD'S FIRST LINE OF TOGGLE CLAMPS
360 Midland Avenue • Detroit 3, Michigan

For more details circle NED-252 A7 on enclosed inquiry slip

ALL SHEARS WERE COMPARED



...STEELWELD WAS BOUGHT

It was only after a thorough study of all makes of shears that this one was purchased by a steel warehouse. And it has fully proven up to expectations.

Hot rolled steel plates, stainless plates, floor plates, and other metals are cut smoothly and accurately. This Steelweld Shear handles mild steel to 12'-0" x ¾". The 36" deep throat permits slitting plates to 72" wide down the middle for any length.

STEELWELD Pivoted Blade SHEARS CATALOG No. 2011

Send for free copy of catalog No. 2011.

THE CLEVELAND CRANE & ENGINEERING CO.
6650 E. 282nd St., Wickliffe, O.

STEELWELD SHEARS

For more details circle NED-253 A7 on enclosed inquiry slip

SOLUBLE OIL MIXER
forms uniform water-oil emulsion

Soluble oil and water are automatically mixed and dispensed as a uniform emulsion by this mixing device. Unit has a noncorrosive brass mixing head with an intake for water, an intake for soluble oil and a dispensing outlet. All connections have standard pipe threads. Mixer is inserted into soluble oil drum, connected to plant water line, then dial on head is set. As water flows through unit, it draws oil from drum and combines it with water in the right proportion. Included with unit is a 2-in. sliding bung adapter to fit various drum heights including 15, 30 and 55-gal sizes. Made by **Force-Flo, Inc.**, Dept. N, Box 2442, East Cleveland 12, O.

For more details circle NED-254 A7 on enclosed inquiry slip

METAL CABINET ENCLOSURES
"building block" type offered in many forms for varied applications

Infinite varieties of cabinets to house instrumentation, automation, electronic and electromechanical equipment can be made up from 75 "building block"

metal cabinet enclosures and 125 different subparts. Panel mounting holes in long skeleton frame sections are used for attaching 40 types of panels and four drawers ranging from 7 to 14 in. high by 16 in. deep. Writing desk tops, sloping front consoles, extended arm cabinets and turret panels can be provided.

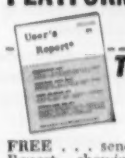
Frames can be bolted together side to side or back to back, stacked or assembled in combinations. Stacked components can be 81 in. high. All panel openings are designed on standard 19-in. communications module. Fastening is by Tinnerman Speed Nuts and Phillips head screws. Components are made of cold rolled steel and finished in a two-tone gray baked enamel with a Bonderite base. Made by **Elgin Metalformers Corp.**, Dept. PR-1, 630 Congdon Ave., Elgin, Ill.

For more details circle NED-255 A7 on enclosed inquiry slip

Operates in tight spots

RAYMOND
Low-Lift
PLATFORM TRUCK

GOES ALMOST ANYWHERE . . . in boxcars, truck trailers, elevators, narrow production and warehouse aisles. Fast lateral mover for skids because it's a rider-truck. Operates in 5' aisles, equipped with narrow or wide platform. 4,000 lb. capacity. Pallet handling model also available.



The RAYMOND CORPORATION
4111 Madison St., Greene, N.Y.

FREE . . . send User's Report, showing Raymond Low-Lift Truck used for:
☐ Production
☐ Warehousing-Shipping.

NAME TITLE
COMPANY
STREET
CITY STATE

For more details circle NED-256 A7 on enclosed inquiry slip

NEW LOW-COST SURFACE PROJECTOR

The New MAGNAVISA by AO Spencer answers an urgent need for a practical low-cost contour and surface projector. A self-contained, portable, projection magnifier ...ideally suited for easy examination of relatively flat objects and small parts, imprinted circuits, fine print of scale drawings etc. Extremely easy-to-use: Simply lower counter balanced optical head to object plane and the magnified image is projected onto the evenly illuminated 4½" x 12" screen. Choice of two models: One magnifies three times, field coverage 1⅜" x 3⅝"; the other five times, coverage ⅞" x 2⅜".

Price $110.00

See your nearest AO Dealer or write Dept. M225.

American Optical Company Instrument Division Buffalo 15, New York

For more details circle NED-257 A7 on enclosed inquiry slip

NEW pocket size thickness gauge
ELCOMETER

Measures Non-Magnetic Coatings with ± 5% ± .0001" Accuracy

ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other non-magnetic coatings quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle locking device assures correct reading every time. Complete with tough leather case containing inner pocket for test strips. Weighs only 6 oz. Completely self-contained. Retail price: $68.00, F. O. B. Cleveland.

FERRO

WRITE FOR ILLUSTRATED FOLDER
FERRO CORPORATION
4180 East 56th St. • Cleveland 5, Ohio

For more details circle NED-258 A7 on enclosed inquiry slip

PERFORMANCE GUARANTEED!

Got a knotty finishing problem? Then consult our experimental finishing department. We'll untangle it! And we'll analyze the best equipment and abrasive material for the job.

Today . . . before you invest in any finishing equipment . . . send us sample parts, a finished part for use as a guide and your specifications. We'll carry on from there. *We guarantee the same results in your plant as we get in our lab*—so how can you lose? Mail the parts and let's get started.

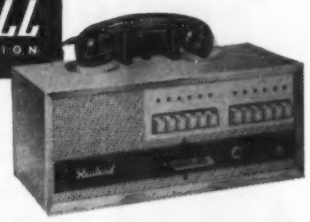
Globe BARREL FINISHING EQUIPMENT
Division CASALBI COMPANY
542 Wayne Street • JACKSON, MICHIGAN

For more details circle NED-259 A7 on enclosed inquiry slip

take the "TURTLE PACE" out of your business with

ELECTRONIC AMPLICALL INTERCOMMUNICATION

featuring new light and chime signals



the "clear line" to everyone in your business

SAVES TIME • CUTS COSTS • Speed up your business pace with this time-saving "clear line" internal communication system. Have *2-second speech contact* within and between all departments—get information, issue instructions, hold conferences, speed action throughout your business—at the touch of a button. AMPLICALL takes the load off busy switchboards, puts an end to wasteful walking and waiting—pays for itself in speedier, more efficient operations. Models now available with new light and chime signals. There is an AMPLICALL system for your exact needs. Write for complete facts today.

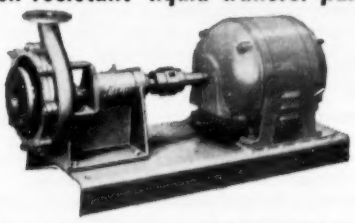
See your Classified Phone Book under "Intercommunication" for the nearest AMPLICALL specialist—or mail coupon today for full details.

RAULAND-BORG CORPORATION
3515-D Addison St., Chicago 18, Ill.

For more details circle NED-260 A7 on enclosed inquiry slip

OLIVER TYPE "L" CENTRIFUGAL PUMP

Corrosion resistant liquid transfer pump!!



- Available in variety of corrosion resistant materials: Alloy 20, Type 316 stainless steel, bronze and cast iron.
- High cut water or volute "tongue", results in self venting, simplified priming, minimum air pocket formation.
- Inlet and outlet connections in same vertical plane.
- Large diameter impeller, excellent hydraulic efficiency over wide range of conditions.
- Interchangeability of parts within certain limits.

Write for Bulletin No. 5004

DORR-OLIVER
INCORPORATED
Stamford, Connecticut, U. S. A.

For more details circle NED-261 A7 on enclosed inquiry slip

New-
CONTOUR GRIPPING FIXTURE
Instantly Grips and Holds any odd shaped piece--in any position

CUTS SPECIAL FIXTURE COSTS

AMPOGRIP Fixtures hold any shape, in any position, without blocking or shimming . . . for drilling, milling or grinding.

Only has to be set once to take identical pieces for any operation.

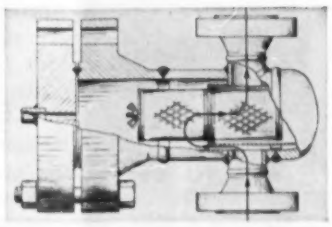
Designed to fit all types of machine tools and built to last a lifetime. AMPOGRIP Fixtures pay for themselves on their very first job.

Write for FREE Descriptive Literature

AMPOGRIP CORP.
10B OLIVINE STREET
WILLIMANSETT • MASSACHUSETTS

For more details circle NED-262 A7 on enclosed inquiry slip

GAS FILTER
rated 99 per cent efficient



This high pressure gas filter, which removes contaminants from gaseous streams to protect turbine expanders, compressors, pumps, nozzles and blowers, has resin-impregnated cellulose filter elements rated 99 per cent efficient. Elements are protected by expanded metal outer cover and are contained in housings made to ASME code. One typical unit, used in liquid oxygen manufacturing plant, is designed to operate under 3300 psi pressures, 70° F and 7000 cfm of air. It employs double filtration elements. Made by **Purolator Products, Inc.**, Dept. G, Rahway, N. J.

For more details circle NED-263 A7 on enclosed inquiry slip

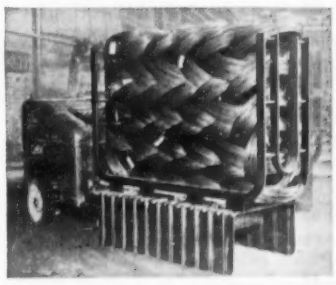
CARBIDE-TIPPED DRILLS
for fast drilling in cast iron

Special fluting, heavy web and slow spiral provide maximum tool strength and rigidity in the series 333 carbide-tipped drills for cast iron. Drill body is uni-

formly hardened and ground from solid steel. Tip cuts cleanly, ejects chips readily and penetrates work easily. Drills range from 1/8 to 1/2-in. diameter in 1/64-in. increments and will be made to standard lengths. Made by **Ace Drill Corp.**, Adrian 7, Mich.

For more details circle NED-264 A7 on enclosed inquiry slip

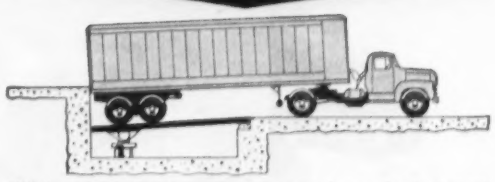
WIRE COIL SKID-RACK
holds up to 50 wire coils



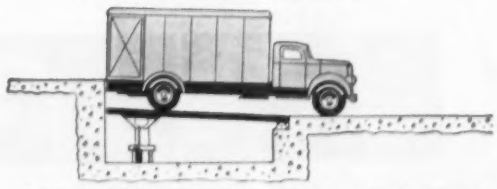
As many as 50 heavy gage wire coils can be held at one time by this combined skid and storage rack, intended to minimize individual coil handling by boom and fork truck. Unit consists of corrugated steel skid welded to U-shaped, open-side superstructure. Skid measures 36 x 72 in. with 18-in. underclearance. The 5/8-in. bar stock superstructure, with the same length and width, is 54 in. high. Open sides allow easy loading and unloading. Unit can be equipped with knee braces or channel runners as required. Made by **Republic Steel Corp.**, Pressed Steel Div., 6206 Truscon Ave., Cleveland 27, O.

For more details circle NED-265 A7 on enclosed inquiry slip

Rotary TRUCK LEVELER
saves dock space • speeds loading



High truck beds are lowered to dock level



Low truck beds are raised to dock level

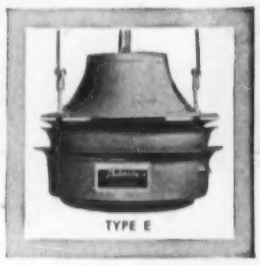
The Rotary Truck Leveler, using economical hydraulic power, handles any highway carrier at any dock. Easily installed at new or existing buildings. Write for catalog RE-800.

ROTARY LIFT CO., 1090 Kentucky, Memphis 2, Tennessee

For more details circle NED-266 A7 on enclosed inquiry slip

LOW COST HUMIDIFICATION
Controls dry, thirsty air
WITH Bahnson UNIT HUMIDIFIERS

- Costs as low as $10 per unit yearly to operate
- Self-contained equipment
- Automatic controls
- No floor space required
- Water or steam units
- Fully guaranteed



The most complete line of Unit Humidifiers for industrial needs made by the *world's largest maker of industrial humidification equipment.*

FREE BULLETIN
Write for Catalog N-5 for information on complete line and ask for specific recommendations. Clip ad to letterhead and mail.

Bahnson COMPANY
WINSTON-SALEM, N. C.

For more details circle NED-267 A7 on enclosed inquiry slip

Cambridge
WOVEN WIRE CONVEYOR BELTS take the bottlenecks out of WASHING, DRYING, PACKAGING

OPEN MESH of rustproof, all-metal belt provides free circulation of process solutions and drying air; assures waste-free packaging.

Whether you're processing slab, sheet or pelletized materials . . . or packaging bottles, drums or bags . . . Cambridge Woven Wire Conveyor Belts combine movement with processing. Continuous belt-to-belt flow through washing and drying cycles, roasting kilns, and weighing and sealing operations cuts cost and provides controlled uniform production.

NO MATTER WHAT YOU'RE PROCESSING . . .
. . . chemicals, plastics, metal parts, food products, ceramics, glass . . . whether your process is wet or dry, at sub-zero temperatures or 2100°F, . . . you can increase production and cut operating expenses all along the line by combining movement with processing on Cambridge Woven Wire Conveyor Belts.

Cambridge Belts are individually designed for your installation from a wide variety of specifications. The metal or alloy from which they are woven is specially determined after investigating the resistance to heat or corrosion required by your operating conditions.

Call in your Cambridge FIELD ENGINEER to discuss how you can cut costs by continuous operation. Look under "BELTING, MECHANICAL" in your classified phone book. OR, write for FREE 130-PAGE REFERENCE MANUAL giving mesh specifications, design information and metallurgical data.

The Cambridge Wire Cloth Co.
Department C • Cambridge 1, Maryland

WIRE CLOTH | WOVEN WIRE CONVEYOR BELTS | WIRE CLOTH FABRICATIONS

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

For more details circle NED-268 A7 on enclosed inquiry slip

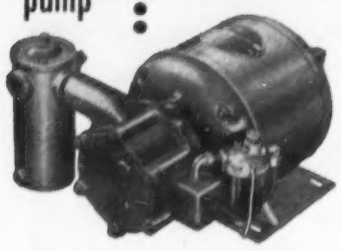
NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of

the MOTOAIR®



Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps. Oil-less models also available.

824

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES CHICAGO CINCINNATI LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

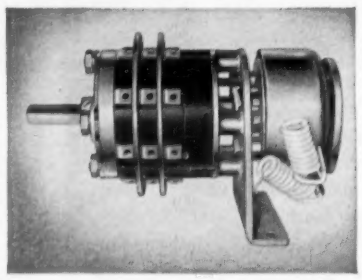
For more details circle NED-270 A7 on enclosed inquiry slip

MOTOR BRAKING CONTROL for all standard ac motors

Applicable to all standard alternating-current motors, this DynAC packaged control and braking system can be installed without mechanical alterations to the motor. To accomplish braking, direct current from selenium rectifier is applied to one phase of any squirrel-cage or wound rotor motor. Timing circuit allows direct current to flow only long enough to stop motor. When activated from pilot control, braking begins immediately after stop signal is received. Braking torque diminishes as motor decelerates for a smooth definite stop. Controllers are available with braking unit only, or as complete braking and starting unit for nonreversing or reversing service. Made by **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

For more details circle NED-272 A7 on enclosed inquiry slip

ROTARY MULTIPOLE SWITCHES with solenoid rotating device



Solenoid rotating devices drive these heavy-duty rotary multipole switches through cycles of contact positions. Indexing stroke of solenoid is matched to degree of rotation between contact positions, and drives rotor one position each time solenoid circuit is closed. Switches provide remote, automatic or semiautomatic control of series of complex circuits. Typical custom-built units include the JR and HT switches with 45 and 22½-degree indexing and 8 and 16 contact positions, respectively. Former has up to 10 poles and is rated 10 amp 125 v ac, 5 amp 125 v dc; latter has up to six positions and is rated 5 amp 125 v ac at 0.80 power factor. Subminiature M-12 unit rated 3 amp 115 v ac has 30-degree indexing, 12 contacts and up to three poles. Made by **Electro Switch Corp.**, Dept. NED, 167 King Ave., Weymouth 88, Mass.

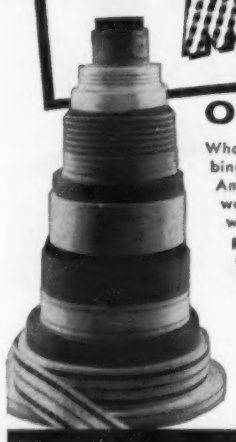
For more details circle NED-273 A7 on enclosed inquiry slip

Furnace Atmosphere Monitors

Leeds & Northrup Co.—Discussion of the use of L&N infrared equipment to monitor CO, CO_2 or CH_4 content of metallurgical atmospheres is presented in folder N-91-620(1). Continuous measurement of these gas components from the output of endothermic or exothermic generators, or in the furnace itself is described.

For more details circle NED-274 A7 on enclosed inquiry slip

SAVE MONEY



ON WEBBING

Whatever you make that requires webbing . . . we can serve you better from America's biggest and oldest source of webbing. We have hundreds of sizes, widths, weights, solid colors and fancy patterns in cotton, nylon, dynel, dacron, jute, combed peeler mercerized and high tensile. They're all in our low priced selection of STANDARDS . . . not a "special". Get the facts now!

We also manufacture a complete line of WOVEN COTTON CONVEYOR BELTS and PURE SHEET RUBBER.

BUFFALO WEAVING and BELTING CO. INC.

210 CHANDLER ST. BUFFALO 7, N. Y.

write for samples and prices!

For more details circle NED-276 A7 on enclosed inquiry slip

GET THE LATEST INFORMATION ON SUPER PRESSURE TUBING

FREE

Be sure to add this useful bulletin on super pressure tubing to your file of technical data. It covers sizes, tolerances, tempers, lengths, and includes a handy table of minimum burst pressures for various sizes. Other sections cover the following: single and composite wall tubing; methods of manufacture; special inspections; recommended fabrication procedures; and many applications.

Superior manufactures super pressure tubing in sizes ranging from ¼ in. OD x 3/32 in. ID, to ¾ in. OD x 1/16 in. ID. It can contain pressures varying from 15,000 to 100,000 psi. This tubing is subject to rigid testing and inspection, and all orders are 100% hydrostatically tested before shipment.

Call on Superior for all your small tubing needs. We produce tubing in over 63 analyses, including stainless, carbon and alloy steels, nickel and nickel alloys, beryllium copper, titanium and zirconium.

SEND FOR YOUR FREE COPY OF DATA MEMORANDUM #22

Superior Tube

The big name in small tubing

2018 Germantown Ave.

NORRISTOWN, PA.

All analyses .010 in. to 5/8 in. OD—certain analyses in light walls up to 2½ in. OD

For more details circle NED-277 A7 on enclosed inquiry slip

Yes, Mr. Glinkenhooper

THERE'S AN ANSWER TO REMOVING BROKEN TAPS, DRILLS...

WHAT DOES IT COST? Less than 10% of the value of the part salvaged . . . even on parts costing as little as 75c.

AN EXAMPLE? How about this gear case used in a radar mechanism. Up to the time a #6 tap broke in one of the holes being tapped it was valued at $100 . . . machining and labor time.

HOW WAS IT REMOVED? An Elox Electron Drill disintegrated the tap and had the casting back on the line in 5 minutes.

BUT YOUR EMPLOYEES DON'T BREAK TAPS, DRILLS, STUDS? The versatile Electron Drills are also used in many forms of die salvage, such as drilling bolt holes in hardened dies, tapered pin holes, coolant holes, lubricant holes . . . without annealing or damaging the dies.

COST OF AN ELOX ELECTRON DRILL? There's a size for every plant . . . prices from $495 to $3450 . . . equipment fully guaranteed . . . expert personnel teach your employees simple operating procedure.

MORE INFORMATION? Just write

elox* corporation of michigan

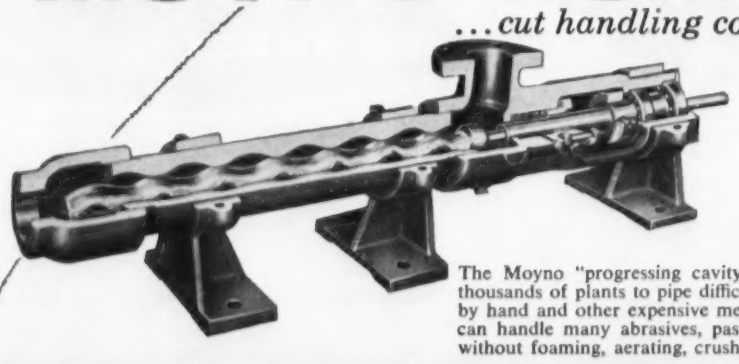
1838 N. Stephenson Hwy., Royal Oak 3, Mich. *T.M.Reg.

For more details circle NED-271 A7 on enclosed inquiry slip

from abrasive slurries to delicate foods

MOYNO® PUMPS

...cut handling costs



The Moyno "progressing cavity" pumping principle has enabled thousands of plants to pipe difficult materials that were transported by hand and other expensive means. Moyno is the only pump that can handle many abrasives, pastes, slurries, chemicals, foods, etc. without foaming, aerating, crushing or excessive pump wear.

As shown above, Moyno Pumps have a screw-like rotor that revolves in a double threaded stator creating progressing cavities which smoothly move material through the pump. They will pump anything that will move through a pipe . . . even plaster and non-pourable pastes! Moyno Pumps are available in capacities up to 500 gpm and pressures up to 1000 psi.

Examine your processing methods. No doubt there are several places where Moyno Pumps can drastically cut costs. Ask us, we'll give you a frank answer. Send us an outline of your problem today! Write for Bulletin 30-NE.

ROBBINS & MYERS, INC.

SPRINGFIELD, OHIO / BRANTFORD, ONTARIO

For more details circle NED-275 A7 on enclosed inquiry slip

Tempilstiks°

FOR ALL HEAT-DEPENDENT OPERATIONS . . .

looks like a crayon
marks like a crayon
tells temperatures like a precision instrument

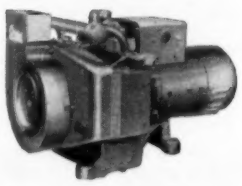
Sixty-three different compositions enable you to determine and control working temperatures from 113° to 2000°F. TEMPILSTIK° marks on workpiece "say when" by melting at stated temperatures — plus or minus 1%.

Also available in liquid and pellet form . . . Write Advertising Division for sample TEMPIL° pellets. . . State temperatures of interest — please!

Tempil°
CORPORATION
132 WEST 22nd STREET, NEW YORK 11, N. Y.

For more details circle NED-278 A7 on enclosed inquiry slip

HOW XEROGRAPHY cuts duplicating costs $18,700 a year and speeds paperwork for D. W. ONAN & SONS INC. MINNEAPOLIS, MINNESOTA



In 1918, D. W. Onan started his business in a small, rented garage in Minneapolis. Today D. W. Onan & Sons Inc. is a leading manufacturer of electric plants with world-wide acceptance and use of Onan products.

To produce Onan Electric Generating Plants, controls, engines and generators of many types and to distribute them to a power-hungry world, takes—among other things—much paperwork. Xerography, the dry, electrostatic copying process, has helped speed this paperwork for Onan and cut duplicating costs $18,700 last year.

Onan ELECTRIC PLANTS

15,300 masters prepared by XEROGRAPHY last year to speed multiple copies of Instruction Manuals Parts Catalogs • Service Bulletins • Internal Forms • Instruction Sheets • Parts Price Lists Technical Bulletins • Tool Catalogs • Plant Model Index • Sales Bulletins • Engineering Drawings Product Price Lists • Research Bulletins • Letters

Onan has found many applications for xerography as suggested by the above uses. Originals are copied quickly by xerography onto masters. These masters are used to run off multiple copies on an offset duplicator. In this way Onan produced 100 current production instruction catalogs; over 400 different bulletins to Onan Service Centers; over 500 different instruction sheets containing assembling information, etc. The Parts Price Lists sent to Onan Distributors is one of the best applications for xerography. The original is set up on visible record panels, each price typed separately on cards which mount on the panel. When there is a change in price, only the card is changed, and the whole panel is quickly copied by xerography onto a master for the new or revised page. Thus, with xerography, multiple copies can be ready in minutes following an announced change.

Anything written, printed, typed or drawn can be quickly copied by xerography onto masters for duplicating. Copies in the same, enlarged, or reduced size can be made from one or both sides of the original material.

WRITE for "proof of performance" folders showing how xerography is saving time and thousands of dollars for companies of all kinds, large and small.

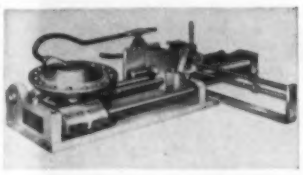
THE HALOID COMPANY
57-58X HALOID STREET, ROCHESTER 3, NEW YORK
BRANCH OFFICES IN PRINCIPAL U.S. CITIES AND TORONTO

XEROGRAPHY
THE FASTEST, CHEAPEST, MOST VERSATILE WAY TO MAKE MASTERS FOR DUPLICATING.

XEROX

For more details circle NED-279 A7 on enclosed inquiry slip

AIR-OPERATED COIL FEEDER for 8, 12 and 18-in. stock widths



Easily moved from press to press, this Ses-Matic air-operated coil stock feeder is designed for direct mounting to bolster plate of press. Units are available for maximum stock widths of 8, 12 and 18 in. and maximum feed stroke lengths of 8, 12 and 18 in. Thicknesses of stock handled are 5/32, 0.125 and 0.093 in., respectively, for the three maximum widths. Stock, gripped with about 1600 lb pressure, is always fed on up stroke of press. Stroke length is adjustable from 0 to maximum. Hydraulic check device cushions feed stroke impact on each end. Made by **Special Engineering Service, Inc.**, Dept. NED, 8161 Livernois Ave., Detroit 4, Mich.

For more details circle NED-280 A7 on enclosed inquiry slip

LINEN-PHENOLIC SPUR GEARS in 1/8, 3/16 and 1/4-in. bores

Precision made type AB linen-phenolic spur gears are available in pitches of 48, 64, 72 and 96; bores of 1/8, 3/16 and 1/4-in.; and face widths of 1/8 and 3/16 in. They are cut to AGMA Proc. 1 standards. Material meets MIL-P-15035 type FBL specifications and is finished with fungusproof varnish before gear cutting. Made by **PIC Design Corp.**, Dept. NED-P2, 160 Atlantic Ave., Lynbrook, L. I., N. Y.

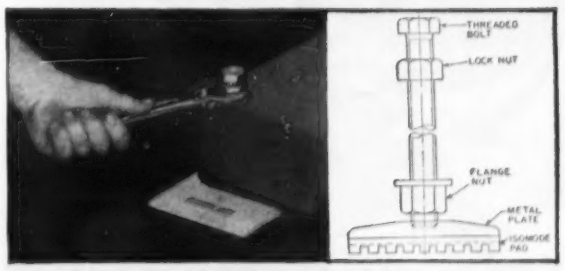
For more details circle NED-281 A7 on enclosed inquiry slip

MAGNETIC PLATE HANDLER attachment for electric fork trucks

Efficient handling of metal plate is possible with this magnetic attachment which mounts between the forks of Yale electric lift trucks. Magnet is actuated by a cowl switch and becomes energized as soon as the load depresses a bar switch located in the middle of the magnetic plate. A small cowl light shows magnet is in operation. Improper placement of load on the forks prohibits forward or reverse truck movement, but permits hoist operation. Switch for emergency use over-rides the magnetic attachment in case of unusual circumstances. Made by **Yale & Towne Mfg. Co.**, Yale Materials Handling Div., Dept. M-1, Roosevelt Blvd. & Haldeman Ave., Philadelphia 15, Pa.

For more details circle NED-282 A7 on enclosed inquiry slip

Now . . . level machines and stop vibration, too!



. . . with MB's Iso-Level Mounts

Easy does it. Place plate and flanged nut under machine foot, slip bolt through hole, turn nut to level, lock with upper nut.

No lagging to floor needed. The Isomode® Pad at bottom swallows up vibration and shock, prevents machine "creep." The mount saves maintenance, makes relocation of equipment easier, reduces noise.

Sizes available for loadings from 100 to 12,000 pounds per mount.

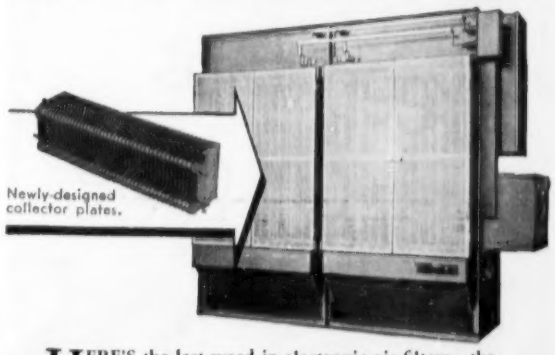
ISOMODE PADS alone are also available, in 18" x 18" sheets. They support 50 lbs/sq.in. . . . simply cut size needed. Highly economical way to control vibration and noise. They last for years. Send for bulletins AD-1 and 415.

manufacturing company
A DIVISION OF TEXTRON INC.
1066 State Street, New Haven 11, Conn.

For more details circle NED-283 A7 on enclosed inquiry slip

For more details circle NED-284 A7 on enclosed inquiry slip

Electro-MATIC AIR FILTER



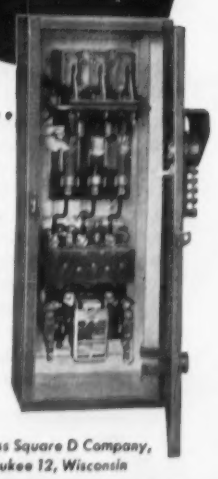
HERE'S the last word in electronic air filters—the Model F ELECTRO-MATIC, which maintains continuous high efficiency through constant self-cleaning. Newly-designed collector plates increase surface area 53%. This further reduces possibility of dust build-up, and slows down air velocity between plates by 25%. No time out for washing—Model F ELECTRO-MATIC keeps itself at peak efficiency around the clock, around the calendar. Write today for Bulletin 250.

American Air Filter
COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

For more details circle NED-285 A7 on enclosed inquiry slip

for GREATER SAFETY & LONGER STARTER LIFE

THIS SQUARE D *COMBINATION STARTER...*



• You save time and money when you install one device instead of two. You save mounting space, too. And you have a neater, more compact installation.

Square D's Switch gives you no less than eight design features which provide plus performance and operator safety.

Square D's Starter design provides quicker, easier maintenance and exceptionally long life.

Write for Bulletin 8538. Address Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

For more details circle NED-286 A7 on enclosed inquiry slip

POWERFUL . . . VERSATILE . . . lifts loads up to 1000 lbs.—to a 60" height—yet is so compact you can maneuver it in a six-foot aisle. Runs forward or reverse . . . automatic push-button controls on handle. Economical 12-volt system with built-in charger. Backed by Uhrden's 90-day guarantee.

ADVANCED SAFETY FEATURES
- Self-releasing controls
- Three-position wheel brakes
- Emergency brake
- Handle can't drop—swings up automatically when released

Send for complete CHAMPION specifications

Tubar LIFT DIVISION
uhrden, inc.
DENNISON, OHIO
Tubar ASSURES Quality

U-1056-71A

For more details circle NED-287 A7 on enclosed inquiry slip

CALCULAGRAPH

figures elapsed time accurately

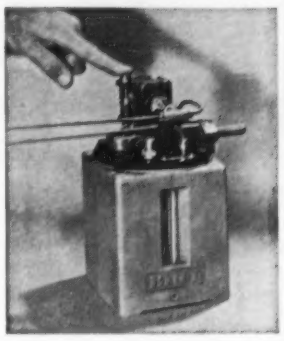
Reliable job time records are essential for compiling correct cost data, estimating reorders and checking on production efficiency. One sure way to secure accurate to the minute, dependable time costs is to use Calculagraph automatically-figured elapsed time records. Calculagraph gives you total elapsed time, starting and finishing time and date on a permanent, printed reference card. Eliminate losses due to inaccurate job time calculations by using Calculagraph to time your operations.

Agents in Principal Cities
Ask for a Demonstration
Call or Write Dept. NE

CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

For more details circle NED-288 A7 on enclosed inquiry slip

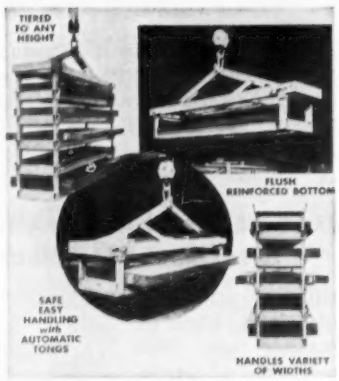
AUTOMATIC LUBRICATOR
has double pump system



Independent systems in the AP-3 automatic lubricator provide cyclic and continuous oil flow to different bearings on the same machine. Units consists of two gear pumps with a common drive gear, mounted in a single housing and both drawing oils from common reservoir. Bypass valves on both cyclic and continuous branches can be manually adjusted for volume of discharge. Cyclic pressures can range from 25 to 150 psi and can occur from every 5 minutes to every half hour. In the continuous branch, pressures may range from 7 to 50 psi. Instant feed button allows discharge of oil through cyclic system when starting a cold machine. Made by **Bijur Lubricating Corp.**, Dept N, 151 W. Passaic St., Rochelle Park, N. J.

For more details circle NED-289 A7 on enclosed inquiry slip

SHEET STEEL RACKS
handled with overhead crane tongs



These heavy - duty racks, designed to handle and store sheet metal, are easily picked up with automatic tongs suspended from overhead crane. Racks have flush bottom, reinforced crossbars welded to frame and an extra thickness of lift bar welded to full wrap-around crane bar. Sheet steel of various widths can be handled and tiered to desired height. Safety strips welded at each end of the rack prevent it from slipping when tiered. Racks are built to any size and weight specifications by **Palmer-Shile Co.**, 16015 Fullerton St., Detroit 27, Mich.

For more details circle NED-290 A7 on enclosed inquiry slip

Let's Finish the Job!
Join MARCH OF DIMES
IN JANUARY

NEW! Sensational **BEND-EX** MODEL B-4

ECONOMICAL! COMPACT!

Bends all metal tubing of steel, aluminum, brass, copper, stainless steel

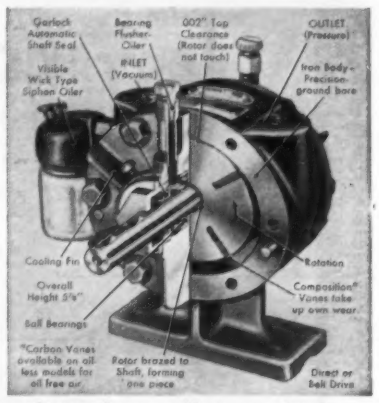
This compact bench model is not only the fastest, but the most economical bender ever built. Ideal for both mass production and custom quantities. So simple—anyone can operate. Heavy duty construction! Guarantees QUALITY, speed and low cost.

Adaptable to all Bending Requirements
- AIRCRAFT
- AUTOMOTIVE
- PLUMBING
- TOYS
- FURNITURE
- AIR CONDITIONING
- REFRIGERATORS
- METAL CABINETS

WRITE FOR DETAILS

MACHINE TOOL DIVISION OF
PAUL MACHINE TOOL & DIE WORKS
4600 SOUTH KEDZIE DEPT. B-4
CHICAGO 32, ILLINOIS

For more details circle NED-291 A7 on enclosed inquiry slip



Quality and simplicity keep efficiency high on

GAST rotary vane AIR PUMPS

This cutaway reveals why Gast Air Pumps are in demand for plant use and original equipment. Manufactured to high quality-precision standards, all models embody this efficient, simple rotary-vane design. Rotor is balanced; sliding vanes light in weight for minimum motion-energy-friction loss compared to other pumps. As vanes take up their own wear automatically, pump delivers full performance for years.

Write for "Application Ideas" booklet and catalog—mention capacity you need! Gast Manufacturing Corp. P. O. Box 117-R, Benton Harbor, Michigan.

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY
- AIR MOTORS TO 4 H.P.
- COMPRESSORS TO 30 P.S.I.
- VACUUM PUMPS TO 28 IN.

See Our Catalog in Sweet's Product Design File

For more details circle NED-292 A7 on enclosed inquiry slip

Knu-Vise offers rugged heavy-duty clamps, with solid bar or channel bar, and either hand or air operated, for all kinds of tough holding jobs.

In addition to their stand-up stamina for rough going, these Knu-Vise Clamps feature:

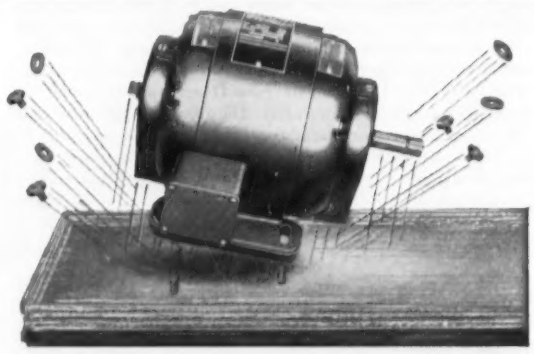
1—Easy and complete replaceability of parts
2—Hardened and ground bearing bolts
3—Minute adjustment of parts through self-locking nuts
4—Toggle Bars from C.R.S. Bars

Developments like these are typical of Lapeer engineering. More information? Write for catalog today on the models available.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS **LAPEER MANUFACTURING CO.**
3062 DAVISON ROAD • LAPEER, MICHIGAN
WESTERN DIVISION: 422 Magnolia, Glendale, California • CANADIAN DIVISION: Higginson Engr., Hamilton, Ontario

For more details circle NED-293 A7 on enclosed inquiry slip



SHOCK ABSORBER...

NODULAR GRAPHITE CONSTRUCTION
protects exposed motors

● Nodular graphite iron end shell and frame construction cushion Peerless motors from shock and impact. They are particularly recommended for applications where they are exposed to moving vehicles, crane hooks, falling rock, steel or debris. They have all the advantages of cast steel at lower cost. Peerless engineers will work with you to produce the one motor that powers your product best.

ELECTRIC MOTOR DIVISION
THE Peerless-Electric® COMPANY
FANS · BLOWERS · MOTORS · ELECTRONIC EQUIPMENT
1506 W. MARKET ST. • WARREN, OHIO

For more details circle NED-294 A7 on enclosed inquiry slip

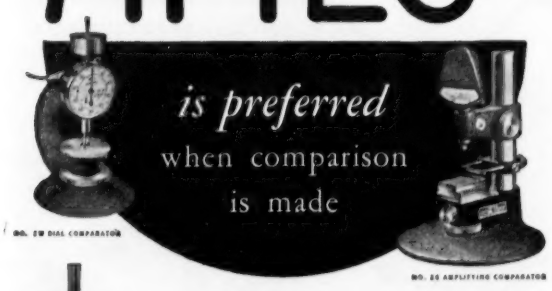
NOW...you can
CONVERT LATHES FOR MILLING
in 10 seconds with the
PALMGREN
MILLING ATTACHMENT
No. 250

Now, in your own shop, on your present lathes, you can do such jobs as Milling, Slotting, Grinding, Grooving, Sawing at angles, recessing and many more complicated jobs easily and quickly with the Palmgren Milling Attachment. Yes, in just 10 seconds you can convert to any of these operations and save time and money doing work you formerly had to send out. Precision built, graduated for rotary angle and vertical adjustments, easily mounted on all makes of lathes by straddling tool post, this attachment has proved highly valuable in thousands of shops, both large and small. Three sizes: jaw widths 1½" $18.75; 2½" $24.75; 4" $39.75. Available NOW! Get more out of your lathes by using these versatile Palmgren Milling attachments. Write today.

Just a few operations you can do on your lathe! 120

CHICAGO TOOL AND ENGINEERING CO.
8378 South Chicago Ave., Chicago 17, Illinois
For more details circle NED-295 A7 on enclosed inquiry slip

AMEs



For fast, accurate measurements, Ames Dial Comparators are the choice of quality control men everywhere. You get definite, impersonal readings directly from the dial. There's no guesswork or figuring.

Special comparators are available for measuring resilient materials such as rubber, paper, etc., and for measuring non-yielding materials such as sheet metal, glass and plastic. Write for complete details.

Representatives in principal cities

B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.
MANUFACTURERS OF MICROMETER DIAL GAUGES • MICROMETER DIAL INDICATORS
For more details circle NED-296 A7 on enclosed inquiry slip

BIG SOCKET SCREWS
Cleveland can fill your order promptly

Cleveland has the facilities to give prompt service on large diameter socket head cap screws. We regularly stock 1¼-7 and 1½-6 in lengths through 12 in. For other list sizes from 1⅛ to 3 in. diam. through 12 in. length, we stock headed blanks ready for threading to your specifications.*

Made of specially heat treated alloy steel, these Cleveland large diameter socket screws have upset forged heads and fully formed fillets under the head. These features increase fatigue and tensile strength, put extra fastener muscle into your assemblies.

Write for our new folder, "Cleveland Large Diameter Socket Head Cap Screws." Cleveland also supplies large diameter hex head cap screws.

*Diameters over 3 in., lengths over 12 in., available on special order.

THE CLEVELAND CAP SCREW COMPANY
4444-18 Lee Road, Cleveland 28, Ohio
Warehouses: Chicago • Philadelphia • New York • Providence • Los Angeles
For more details circle NED-297 A7 on enclosed inquiry slip

CIRCLE TEMPLATE
has 45 sizes from 1/16 to 2¼ in.

Each of the 45 circles on the No. 140 large circle drafting template is individually milled for smoothness. Sizes are in 1/64-in. increments to 11/32-in., 1/32-in. increments to ¾-in., 1/16-in. increments to 1 in. and ⅛-in. increments to 2¼-in. Pencil allowance is included. Template is made of 0.030-in. matte finish plastic and measures 7¼ x 8¼ in. Made by **Rapidesign, Inc.,** Box 592A, Glendale, Calif.

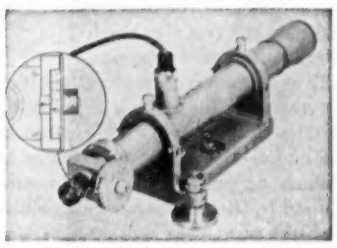
For more details circle NED-298 A7 on enclosed inquiry slip

STAINLESS CUSHION CLAMP
corrugations furnish spring action

Both clamp and spot welded cushioning element of series TA1500 lightweight cushion clamp are made of 321 stainless steel and resist temperatures as high as 1500° F. Cushion is corrugated to furnish spring action for high frequency, low amplitude vibration. Sizes range from ¼ to 3 in. ID. Corrugations have flat surfaces for maximum tube contact to dissipate heat. Cushion edges are crimped for abrasion-free grip. Made by **TA Mfg. Corp.,** 4603 Alger St., Los Angeles 39, Calif.

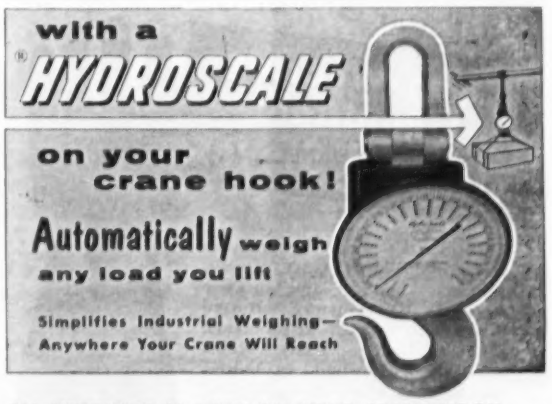
For more details circle NED-299 A7 on enclosed inquiry slip

COLLIMATOR
direct reading to 0.1-second of arc



Improved micrometer drum arrangement of the Watts Microptic auto-collimator (see insert) permits direct reading to 0.1-second of arc, equivalent to 0.0000005-in. per inch of length. Its mounting provides stability, accuracy and sensitivity, and other improvements are in illumination and electrical equipment. Applications range from testing of surface plates and machine tools to control of precision gear cutters, test fixtures and guided missile tables. Testing of ultra-fine wires for diameter and roundness is possible. Available from **Engis Equipment Co.,** Dept. RR10, 431 S. Dearborn St., Chicago 5, Ill.

For more details circle NED-300 A7 on enclosed inquiry slip



ALL WEIGHING IS DONE ON YOUR CRANE HOOK
ENGINEERED AND BUILT FOR LONG SERVICE-LIFE
THERE ARE 110 MODELS IN THE COMPLETE LINE
TARE ADJUSTING KNOBS FOR NET LOAD READING
EASY-TO-READ DIALS AVAILABLE IN 3 SIZES

HYDROSCALES
guaranteed for one year
They are guaranteed to be free of defects in workmanship and materials, and to be accurate to ½ of 1% of the maximum dial capacity—for 1 year.

HERE ARE SOME TYPICAL WEIGHING APPLICATIONS
Just a few of the many applications include — loading, unloading, check weighing, batching, foundry charging, and protecting your equipment from overloading.

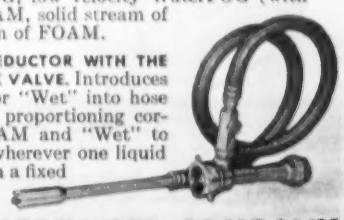
HYDROWAY SCALES, INC.
31288 Stephenson Highway • Royal Oak, Michigan
"The world's largest producer of crane scales"
For more details circle NED-301 A7 on enclosed inquiry slip

Rockwood DOUBLE-STRENGTH Foam
Smothers 'Em All!

Gasoline • Fuel Oil
Jet Fuel • Crude Oils
and other
Petroleum Derivative Fires

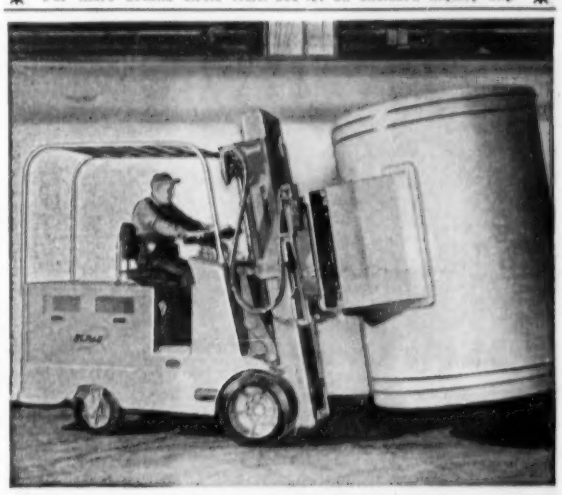
Team DOUBLE-STRENGTH Foam with these two Rockwood fire killers

TYPE SG-60 NOZZLE. A true all-purpose nozzle that fights fire 5 ways. It discharges high velocity WaterFOG, low velocity WaterFOG (with applicator), FogFOAM, solid stream of water or solid stream of FOAM.



FOAM AND "WET" EDUCTOR WITH THE FW METERING-CHECK VALVE. Introduces Rockwood FOAM or "Wet" into hose lines, automatically proportioning correct amount of FOAM and "Wet" to water. Also usable wherever one liquid is fed into another on a fixed percentage basis.

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to Cut Fire Losses
Portable Fire Protection Division
1648 HARLOW STREET, WORCESTER 5, MASSACHUSETTS
For more details circle NED-302 A7 on enclosed inquiry slip



Best for the
Heavyweight Jobs

If you use heavy-duty equipment like this, specify Goodyear Industrial Tires—and you're on your way to better tire performance — longer tire wear. And the reason can be summed up in three words: "They're job-fitted."

When your Goodyear Dealer is asked for his recommendations, he not only fits the tire to the truck—he fits it to the job—by size, by tread design, and with the right rubber compound.

So if you want your Industrial Tires to come through with a performance on heavyweight jobs that can't be beat—call your Goodyear Dealer. Or you can write: Goodyear, Industrial Tire Sales, Akron 16, Ohio.

SMOOTH-SOLID TIRE—for factory, warehouse and loading platform
ALL-WEATHER TREAD SOLID TIRE—for ramps, wet surfaces and other extra-traction conditions
GROOVED TREAD SOLID TIRE—built to take heavy punishment on big trucks
ALL-SERVICE TREAD XTRA CUSHION SOLID TIRE—built with compact lug design for fast, easy rolling with maximum smoothness and stability

Look for this sign; there's a Goodyear dealer near you.

GOODYEAR TIRES

USE THE RIGHT TIRE FOR THE JOB—BUY AND SPECIFY

GOODYEAR
INDUSTRIAL TIRES

All-Service,
All-Weather, Xtra Cushion— T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio
For more details circle NED-303 A7 on enclosed inquiry slip

SILICONE pressure-sensitive TAPE sticks to anything . . .

metals, glass, paper, fabrics, plastics, teflon, polyethylene, many adhesive materials even when wet.

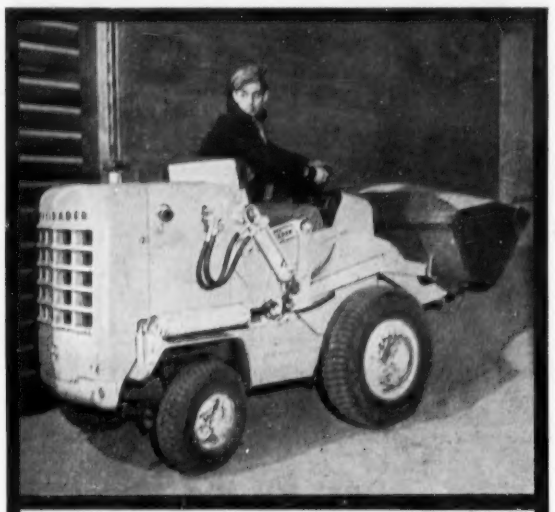
UNUSUAL PROPERTIES. Good adhesion and tack from −80° to more than 500° F; excellent dielectric; superior resistance to moisture, weathering and aging.

AVAILABLE on glass cloth, plastic film, aluminum, paper and other backing materials.

FULL INFORMATION and list of suppliers.

DEPT. 5413 DOW CORNING CORPORATION MIDLAND, MICHIGAN

For more details circle NED-305 A7 on enclosed inquiry slip



Saves $7.00 per ton on Shipping Costs

The purchase of a new-model "PAYLOADER" tractor-shovel enabled an Ohio plant to receive its molding sand in boxcars at a saving of $7.00 per ton — a saving sufficient to pay for the unit in a year. But boxcar unloading is only a part-time task for this "PAYLOADER". Its regular work is the handling of tons of sand, steel scrap, waste and refuse in daily foundry operations.

This Model HA with a bucket capacity of 18 cu. ft. (2,000 lbs.) is the smallest of a complete line of "PAYLOADER" tractor-shovels that range up to 2¼ cu. yd. (7,500 lbs.). Lift forks, sweepers and other attachments are available for the Model HA to increase its usefulness. There's a nearby Distributor ready to demonstrate what a model HA or a larger "PAYLOADER" can do for you. The Frank G. Hough Co., 746 Sunnyside Ave., Libertyville, Illinois.

PAYLOADER® THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.

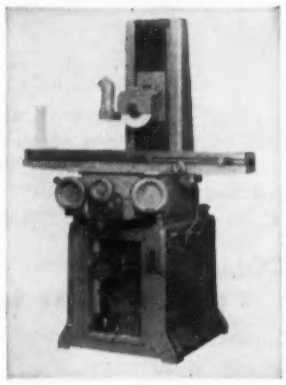
For more details circle NED-306 A7 on enclosed inquiry slip

ULTRASONIC CLEANER for watch and other small parts

Washing, rinsing and hot air drying actions are provided by model WC - 35 ultrasonic cleaner for watch and small precision parts. Equipped with two removable transducer cans, cleaner is also furnished with baskets, basket holders and an ultrasonic beam disperser. It consists of single cabinet into which is built an electronic unit capable of delivering 35 w of r-f power at 1 megacycle. Stainless steel transducer cans hold about 1200 cc of liquid, and each has 1-in. barium titanate element mounted in the bottom. Cleaner uses watch cleaning and wash solution, as well as most any cleaning solvent or water. A switch shifts r-f energy from wash to rinse transducer as required. Made by **McKenna Laboratories,** Dept. WNE, 2503 Main St., Santa Monica, Calif.

For more details circle NED-307 A7 on enclosed inquiry slip

SURFACE GRINDERS line includes three models



Models with powered table and powered crossfeed, powered table and hand crossfeed and with full hand-feed operation are available in line of 618 surface grinders. Reciprocating table is driven by a cogged timing belt and the crossfeed operates within 1½ in. of the end stroke in both directions. Crossfeed is adjustable from 0.006 to 0.100-in. Table and spindle motors have overload protection. Hand and power feed models have a built-in 300 va transformer for connection of work lights, accessories and controls. All models have low pressure automatic lubrication. Work capacity is 6 x 18 in. on the 51 x 8-in. table. Made by **Reid Brothers Co.,** Elliott St., Beverly, Mass.

For more details circle NED-308 A7 on enclosed inquiry slip

Radiation Pyrometer

Minneapolis-Honeywell Regulator Co., Industrial Div.—Included in 24-page catalog C 93-1 on Brown Radiamatic pyrometers is the new sapphire rod pyrometer developed for controlling temperature of molten germanium and silicon in seed crystal growing. Also described is a high speed pyrometer with average speed response of less than 0.5-second for 90 per cent change in temperature.

For more details circle NED-309 A7 on enclosed inquiry slip

Long-Wearing Liquidtight Stanzoil Gloves

Of milled Du Pont Neoprene to resist oils, acids, caustics, greases, solvents, chemical and abrasive materials. Permanently satinized inside with non-slip grip outside. Light, medium and heavy weights in sizes to fit every hand. PIONEER will help you select the right glove for your job from the complete PIONEER line.

No. N-54

The PIONEER Rubber Co.
Attn: Hand Protection Clinic
234 Tiffin Road
Willard, Ohio, U.S.A.

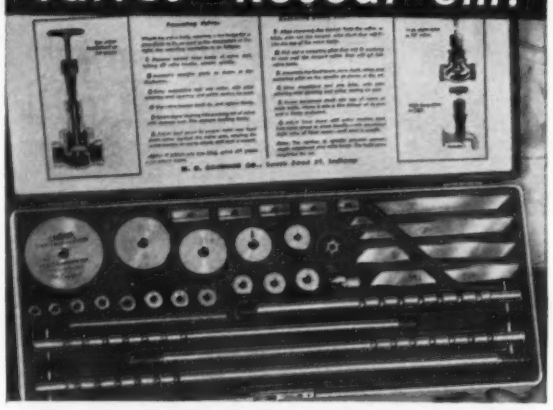
Pioneers in Hand Protection — For Over 35 Years

Please send me:
- ☐ The name of my nearest PIONEER Glove Distributor.
- ☐ 1956-57 PIONEER Industrial Glove Catalog.
- ☐ Your glove recommendation for job described in enclosed letter.

Firm ____
Address ____
City ____ Zone ____ State ____
Signed ____

For more details circle NED-310 A7 on enclosed inquiry slip

Don't junk leaky valves—Reseat 'em!



Pays for itself on the first 2 jobs!

Reseats flat and tapered seat globe or angle valves—all bibbs, faucets—quickly and accurately. The saving, over tearing out and renewing leaky valves and fixtures, is tremendous.

Cutters operating under screw feed, leave worn, scored seats glass smooth, level, absolutely tight. The cutter rotates on a level plane and is advanced by slight turns of the feed screw until the job is done.

A guide pilot centers each cutter; a tapered cone centers each spindle. Perfect alignment is inevitable. Cutters guaranteed. Write for literature!

2" for ¼" to 2" valves and ¼" to ¾" bibbs . . $47.75
3" for ¼" to 3" valves and ¼" to ¾" bibbs . . $62.50

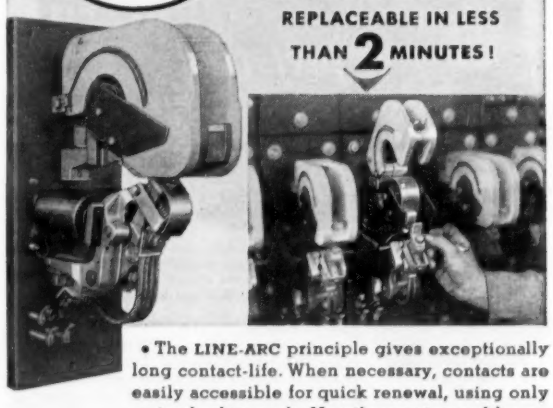
M. B. SKINNER CO., South Bend 21, Ind.—Established 1898

For more details circle NED-311 A7 on enclosed inquiry slip

for EASIER Maintenance

EC&M LINE-ARC® CONTACTORS

FRONT AND REAR CONTACTS REPLACEABLE IN LESS THAN 2 MINUTES!



• The LINE-ARC principle gives exceptionally long contact-life. When necessary, contacts are easily accessible for quick renewal, using only a standard wrench. No other parts need be removed first. *Write for Bulletin 1145*

SQUARE D COMPANY
EC&M DIVISION • CLEVELAND 28, OHIO

For more details circle NED-312 A7 on enclosed inquiry slip

Toolroom Favorite: CONTINENTAL COUNTERBORE SETS

Set No. 1 for Counterboring, Spot-facing, and Countersinking.

CTW

Save time—save money with this wide variety of counterbores, countersinks and pilots, compactly boxed. Continental's Indestructible Drive won't stick, won't break, easily hand-detachable. THREE SETS AVAILABLE, for large or small toolrooms. Order from your local Ex-Cell-O representative—or write to Continental for catalog.

CONTINENTAL TOOL WORKS
Division of Ex-Cell-O Corporation
Detroit 32, Michigan

54-11

For more details circle NED-313 A7 on enclosed inquiry slip

SECTIONAL BINS

BUILT TO LAST A LIFETIME

For converting skid platforms into skid-bins for handling loose loads. Capacities increased by adding rings. Outside corner angles, radiused for safety, are full height of bin for protection of hardwood sides. Our own lock corner construction reinforces bolts and insures longer life.

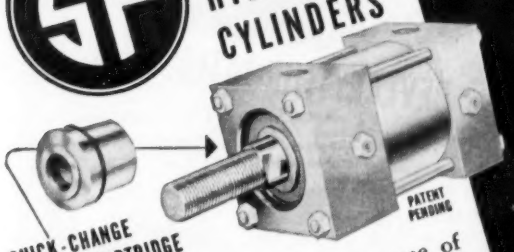
RE-NU TOP SKID PLATFORMS — ROLLAWAY SKIDS — SKID-BOXES

LANHAM SKID CO.

DIVISION OF THOMAS TRUCK & CASTER CO.
633 On the Mississippi River, Keokuk, Iowa

For more details circle NED-314 A7 on enclosed inquiry slip

AIR and HYDRAULIC CYLINDERS



QUICK-CHANGE PACKING CARTRIDGE CUTS DOWNTIME

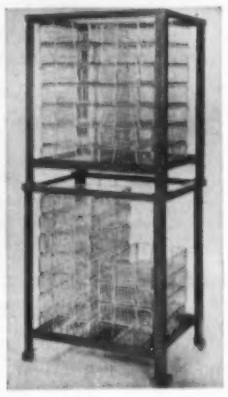
Removable packing cartridge is just one of many modern design features of S-P all-steel cylinders. Made in a wide range of mountings and bore sizes. Prompt deliveries. Send for catalog on Hydraulic Cylinders or Standard Air Cylinders or Heavy-Duty Air Cylinders. The S-P Manufacturing Corp., 30201 Aurora Rd., Solon, Ohio.

SEND FOR Catalog

THE S-P MANUFACTURING CORP.
SOLON, OHIO • IN GREATER CLEVELAND
Established 1916
A Bassett Company
ROTATING AIR AND HYDRAULIC CYLINDERS • POWER CHUCKS
NON-ROTATING AIR AND HYDRAULIC CYLINDERS
COLLET AND DRILL PRESS CHUCKS • AIR PISTONS,
VALVES, ACCESSORIES

For more details circle NED-315 A7 on enclosed inquiry slip

WIRE BASKET RACK
eases truck handling and stacking



Fork truck handling and stacking of wire baskets and other rectangular wire containers is facilitated by the Bak-Rak, a welded angle iron rack with adequate room for fork clearance. Racks can be stacked to limit of space or handling equipment height. Standard unit, available with casters, is 36 in. high, 32 in. wide and 28 in. deep. It will accommodate 10 standard Jaxon or Rugged-Jax baskets. Other sizes can be specified. Made by **Jaxon Wire Products,** Dept. C, 1705 Probert Rd., Jackson, Mich.

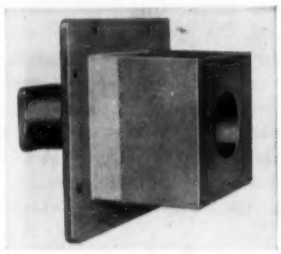
For more details circle NED-317 A7 on enclosed inquiry slip

AIR VALVE
½-in. model for 0 to 250-psi service

Shear-Seal principle of this ½-in. four-way air valve incorporates a pressure balanced, self-aligning tubular sealing ring in constant contact with an optically flat porting disk or rotor containing the flow passage. Design precludes entry of dirt between sealing surfaces. Corrosionproof valve is for 0 to 250-psi air service. Flow passages are unobstructed. Made by **Barksdale Valves,** Dept. NED, 5125 Alcoa Ave., Los Angeles 58, Calif.

For more details circle NED-318 A7 on enclosed inquiry slip

GAS BURNERS
operate in pressurized chambers



Line of totally enclosed tunnel-type burners is designed for firing into pressurized combustion chambers with zero leakage. The GA series units are capable of complete combustion in a chamber pressurized up to 50 psi. Eighteen sizes, covering a range from 4000 to 2 million Btu per hour, operate efficiently without special adjustment in the 450-3200 Btu gas range. Low turndown and high pressure operation without danger of flashback is possible. Operation up to 2200° F calls for superduty refractory blocks, while sillimanite blocks are used for higher temperatures. Made by **Bryant Industrial Products Corp.,** Dept. D, 17700 Miles Ave., Cleveland 28, O.

For more details circle NED-319 A7 on enclosed inquiry slip

"DU PONT BLIND EXPANSION RIVETS licked a BIG design-assembly problem"

SETTING SASH GUIDES to prevent upper and lower frames from sticking—a fast, problem-free job with Industrial Rivets. Takes *only seconds* to drill holes, insert Rivets and expand 'em, window after window—and *one man* can do the job easily and alone!

Reports Mr. John C. Baumgardner, Pres., Gold Seal Aluminum Window Co. (Inc.), Baltimore, Md.

In designing their combination storm windows, Gold Seal had to determine what fastener would keep top and bottom sash separate and also prevent sticking. After experimenting, they picked Du Pont Industrial Rivets—and nipped a thorny design-assembly problem in the bud.

As Mr. Baumgardner puts it: "The fastener used had to fit our window design just right. Screws wouldn't do. They loosened—caused jamming—and besides, the frames are so narrow the job would take too long. Conventional rivets were also 'out' as we'd have to change the sash design to allow for a backing plate. These problems don't exist with Du Pont Rivets."

Job is quickly finished, is neat and sturdy (see photo). Industrial Rivets set solid within a second, require no after-finishing. Rugged, one-piece construction eliminates shaking—insures free-riding frames that won't stick.

It's a good bet you can speed assembly and improve *your* product with Du Pont Rivets. Give these tested fasteners a try. For complete details, contact your jobber or write: E. I. du Pont de Nemours & Co. (Inc.), Explosives Dept., Wilmington 98, Delaware.

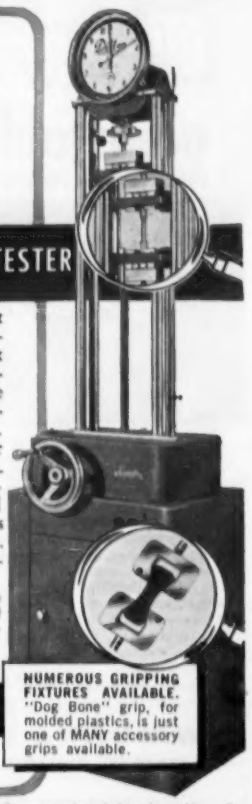
DU PONT INDUSTRIAL BLIND EXPANSION RIVETS

A Product of Du Pont Explosives Research

DU PONT
Better Things for Better Living ... through Chemistry

For more details circle NED-316 A7 on enclosed inquiry slip

Your Best Bet and at a low, low price, too!



Dillon UNIVERSAL TESTER

Designed for top accuracy at low cost, the DILLON Universal Tester is your wisest investment. Operates in tensile, compression, transverse or shear. Checks metal, plastics, wire, rubber, springs, etc. 7 interchangeable gauges. For materials up to 125,000 lbs. PSI tensile. Hand wheel operation or motorized. Equipped with max. indicator. Meets most all ASTM & Fed. specs. Handles round, flat or special shapes.

For low strength materials between 0 & 300 lbs. Model M (not shown) is available. Accurate to ½ of 1%. Has 5 scales.

Write TODAY for brochures and LOW price schedule.

NUMEROUS GRIPPING FIXTURES AVAILABLE. "Dog Bone" grip, for molded plastics, is just one of MANY accessory grips available.

W.C. Dillon & CO., INC.
14578NE Keswick St., Van Nuys 1, Calif. (suburb of Los Angeles)

For more details circle NED-320 A7 on enclosed inquiry slip

Install the **CHICAGO WATCHCLOCK System**

— and know!

● With the tamper-proof CHICAGO portable watchman's clock you get a definite, permanent record of your watchman's activities. That's why the simple, economical CHICAGO WATCHCLOCK System is approved by THE UNDERWRITERS' LABORATORIES and by THE FACTORY MUTUALS LABORATORIES for

Increased Protection Against

FIRE THEFT SABOTAGE

Users of the CHICAGO System earn **Reduced Insurance Rates**

The CHICAGO WATCHCLOCK System quickly pays for itself!

"The first—and still the first!"

CHICAGO WATCHCLOCK

DIV. GREAT LAKES INDUSTRIES, INC.
1522 South Wabash Avenue, Chicago 5, Illinois
Offices In Principal Cities

Write today for FREE FOLDER of illustrated details . . . tells why the CHICAGO WATCHCLOCK is in a class by itself . . . how the CHICAGO System can be installed in a few hours by any workman with no tools other than a screwdriver.

For more details circle NED-321 A7 on enclosed inquiry slip

OTC

REPLACE 42 SIZES WITH THESE TWO

NEW GIANT ALLOY adjustable wrenches

THINNER-LIGHTER-STRONGER

Until now 42 fixed size wrenches were needed to handle jobs done by these two *"Slim-Twin"* adjustable wrenches. Slim to permit easy access to tough jobs. Lightweight sturdy, high quality alloy steel for dependable service.

OA24-24" long, 7/8" thick with two jaws. Provides adjustments from 1 5/8" to 2 7/8" in 1/8" graduations. Extra jaw permits adjustments from 1 7/8" to 2 11/16" in 1/16" graduations. Weight, only 10 lbs.

OA36-36" long, 1 1/8" thick. Adjusts from 2 11/16" to 4 1/4" in 1/8" graduations. Weight, only 22 lbs.

Save time and money with OTC "Slim-Twins"

WRITE FOR FREE BOOKLET

OWATONNA TOOL CO.

436 CEDAR ST., OWATONNA, MINNESOTA

▲ For more details circle NED-322 A7 on enclosed inquiry slip ▲

Just What the doctor ordered

WESTON CORMAG® PANEL INSTRUMENTS

Model 1301 & 1331 core-magnet panel instruments give you more, *much more*, than the unmatched performance you have always experienced from Weston meters. The mechanism construction is extremely simple, with fewer parts. It is *self-shielding* . . . which means these instruments can be mounted interchangeably on magnetic or non-magnetic panels without adjustment; and mounted in close proximity without intereffect. Best of all, these outstanding advantages bring no price premium . . . in fact, they are yours for *less* than you pay for conventional instruments. For complete information on *Cormag* panel instruments, or on other Weston instruments for panel, laboratory, production test, or servicing needs, consult your nearest Weston representative, or write, Weston Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 12, New Jersey.

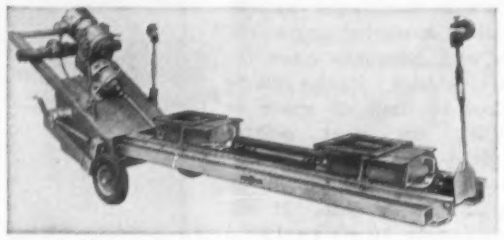
WESTON *Instruments*

A DAVENPORT UNIT

▲ For more details circle NED-323 A7 on enclosed inquiry slip ▲

PNEUMATIC UNLOADER attaches to outlet of Airslide cars

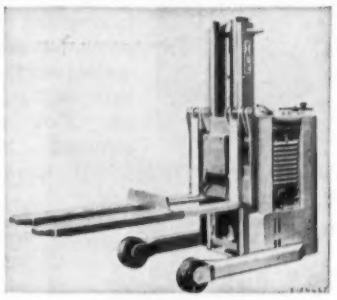
Materials that can be handled in an Airslide railroad car, including starch, clay, urea and synthetic resins, can be conveyed by the Portaflow portable pneumatic



unloader. Balanced all-weather unit weighs 1045 lb and is easily handled by two men. It has a variable speed drive which makes possible a constant flow from the car outlet into bulk delivery bins or trucks. Independently adjustable wheels aligned with the car, and clamp and turnbuckle arrangement attaches it to the car. It is available for both 3 and 4-in. diameter conveying lines and is capable of handling 17 tons per hour. Made by **Sprout, Waldron & Co.**, 8 Logan St., Muncy, Pa.

▲ For more details circle NED-324 A7 on enclosed inquiry slip ▲

GAS-ELECTRIC TRUCK for steep ramp, long run uses



Long runs and steep ramp work which require above-normal ampere draw on battery-operated trucks is performed efficiently by this Warehouser truck, powered by an engine-generator unit. Power unit provides a constant power supply, permitting full-shift operation under the above conditions. Engine generator unit fits into a medium size battery compartment of the standard Yale Warehouser, sacrificing none of the truck's narrow aisle working ability. Unit can be used on stacker, platform or Extend-A-Fork models. Made by **Yale & Towne Mfg. Co.**, Yale Materials Handling Div., Dept. M-1, Roosevelt Blvd. & Haldeman Ave., Philadelphia 15, Pa.

▲ For more details circle NED-325 A7 on enclosed inquiry slip ▲

Optical Tooling

Charles Bruning Co.—20-page illustrated booklet A-2230 explains the theory, principles and practice of optical tooling—the new method of measuring, positioning and aligning. Line of Brunson optical tooling instruments and accessories is illustrated and described. Included are optical transit squares, jig transits, alignment scopes, optical micrometer and tooling bars.

▲ For more details circle NED-326 A7 on enclosed inquiry slip ▲

NOW YOU CAN HAVE DIEBOLD steel storage files at the cost of cardboard... OR LESS!

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SEND FOR CATALOG 0300-009 TODAY!

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Diebold Files eliminate space-wasting shelving . . . increase storage room capacity up to 100% . . . lock into rigid batteries . . . last a life-time. For reducing costs and improving record filing, send for complete information about Safe-T-Stak Steel Files . . . today.

N-337-DI

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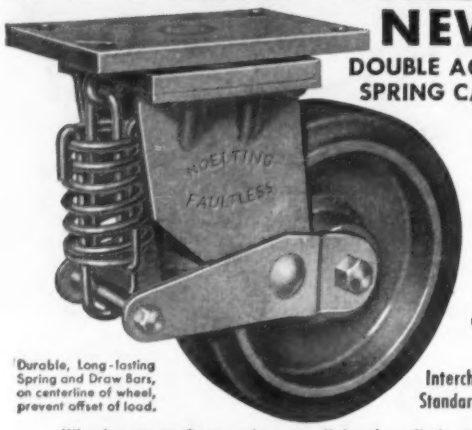
NOELTING **Faultless** ENGINEERED

TRUCK CASTERS CUT HANDLING COSTS

NEW! DOUBLE ACTION SPRING CASTER



Doubles Caster Life and Service

Swivel and Rigid Units

Interchangeable Standard Wheels

Durable, Long-lasting Spring and Draw Bars, on centerline of wheel, prevent offset of load.

Wheel contacts floor surface at all levels—eliminates bounce—doesn't raise truck when mounting obstacles.

Write for descriptive literature, no obligation.

FAULTLESS CASTER CORPORATION
Dept. NE, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

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Cut ANY Shape in Metal... with a BEVERLY THROATLESS SHEAR!

- Capacities to 3/16" in mild steel
- Make clean, knurl-free cuts in any metal to capacity
- High Carbon High-Chrome Blades
- Built to last a lifetime

Here's What a Beverly Can Do!

Cuts made in 18 ga. metal with Model B-1

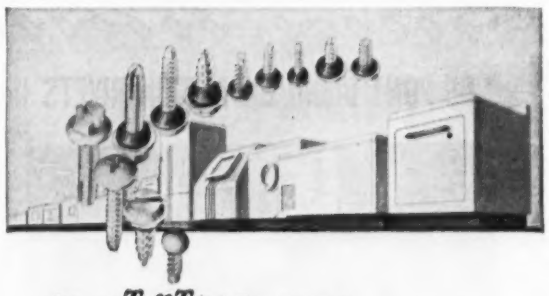
Beverly Shears are the most versatile metal shearing tools you can use. Unique shoulder design permits any cut . . . rack and pinion gives great power with little effort. Alloy steel body for maximum rigidity and strength. Made in 4 models.

Model B-3 with Ball Bearing Hold Down

Write for illustrated circular —or see your Beverly Distributor.

Beverly SHEAR MFG. CO.
3016 W. 111th Street Chicago 43, Ill.

▲ For more details circle NED-329 A7 on enclosed inquiry slip ▲



New *Tuff-Tite Fastener Is Leakproof—Holds Securely**

Tuff-Tite is a new multi-purpose fastener that gives tight, leakproof seating without cracking or chipping porcelain enamel and other fine finishes. It also dampens vibration by acting as a shock absorber and eliminating squeaks and chatter.

All this is accomplished by Tuff-Tite's one-piece metal head and assembled neoprene washer. When tightened, the neoprene is trapped and controlled by an undercut in the washer head. The neoprene is forced into the hole and around the threads to provide a cushion which protects the surface and forms a watertight and airtight seal.

Tuff-Tite fasteners are used for quick, secure, leakproof fastening of metals and plastics. They are available as tapping screws, thread cutting screws, drive screws, machine screws, stove bolts, wood screws and special fasteners. They are made of carbon, alloy and stainless steel, aluminum, brass and other metals in a variety of head styles.

For information, write for Bulletin TL97.

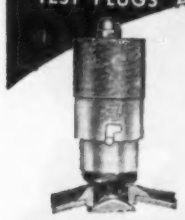
**Trademark*

Townsend Company
P.O. Box 237 G • New Brighton, Pa.

▲ For more details circle NED-330 A7 on enclosed inquiry slip ▲

SAVE TIME TESTING PRESSURE VESSELS
Seal Any Opening in 2 SECONDS
WITH "Quick-Seal"
TEST PLUGS AND FILLING CONNECTORS

"Quick-Seal" Test Plugs and Filling Connectors will reduce pressure test costs by sealing virtually any opening in 2 seconds or less. Can be used in unfinished or finished holes—shallow or deep—to provide leak-proof seal of air or liquid pressures up to 500 psi or greater. "Quick-Seal" Test Plugs and Filling Connectors are widely used by manufacturers of tanks, boilers, drums, castings, radiators, etc. . . . and are sold on a guaranteed satisfaction basis.



"Quick-Seal" Self-Sealing Test Plugs—use test pressure to insure leak-proof seal. Capacities to 500 psi.

"Quick-Seal" Self-Sealing Filling Connector—adapts and seals air or liquid pressure lines to standard or extra deep openings in all types of vessels. Capacities to 500 psi.

"Quick-Seal" Expanding Seal Test Plugs and/or Filling Connectors—manual or pneumatic types for low pressure testing. Can be used in rough or machined openings in all types of vessels, systems and assemblies.

Get complete details on time saving "Quick-Seal" Plugs and Connectors. Write for free illustrated catalog today

MECHANICAL PRODUCTS CORPORATION
176 North Ogden Avenue, Chicago 7, Illinois

For more details circle NED-331 A7 on enclosed inquiry slip

On-the-Job Size...

and Packed with useful DATA...

This 96-page ABART handbook on SPEED REDUCERS • CUSTOM-CUT GEARS is yours without obligation. Write for your free copy today.

ABART GEAR and MACHINE CO.
4831 WEST 16th STREET • CHICAGO 50, ILLINOIS

For more details circle NED-332 A7 on enclosed inquiry slip

SILENT SOUND TRAPS THIEVES!

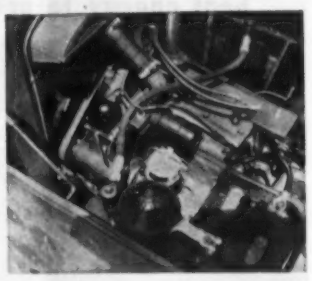
By saturating the protected area with high-frequency sound waves, Kidde's Ultrasonic Burglar Alarm System gives *complete* wall-to-wall, floor-to-ceiling protection. Properly installed, the portable, tamper-proof Kidde system qualifies for an Underwriters' Laboratories number 2 certification. Write today for Kidde's Ultrasonic Alarm Booklet, on the *best* burglar protection at the *lowest* cost!

The words 'Kidde', 'Lux', 'Lux-O-Matic', 'Fyre-Freez' and the Kidde seal are trademarks of Walter Kidde & Company, Inc. and its associated companies.

Kidde
ULTRASONIC DIVISION
Walter Kidde & Company, Inc.
124 Main St., Belleville 9, N. J.

For more details circle NED-333 A7 on enclosed inquiry slip

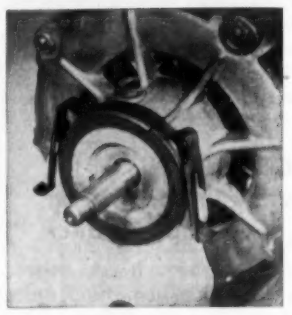
SPARKPROOFING KIT for line of industrial trucks



Electrical sparkproofing kit is available for use on gasoline engines of stand-up or sit-down model industrial trucks used in areas where semihazardous fumes or elements are present. It shields the electrical system to eliminate possibility of any sparks being exposed to inflammable fumes. Water muffler is recommended for use with the kit which is only factory installed. Kit is not to be confused with GS specifications established by Underwriters' Laboratories. Made by **Lamson Mobilift Corp.**, Dept. 212, Syracuse 1, N. Y.

For more details circle NED-334 A7 on enclosed inquiry slip

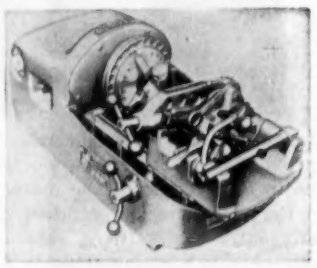
MOTOR MOUNTING BRACKET easily snapped into place



Four-point holding power is featured by this quickly-installed motor mounting bracket. Bracket will withstand thousands of motor starts without slippage or loss of grip on motor mounting ring. It can be easily snapped into place with screwdriver or similar hand tool. Once positioned, it is self-retaining. Made by **Prestole Corp.**, 1345 Miami St., Toledo 5, O.

For more details circle NED-335 A7 on enclosed inquiry slip

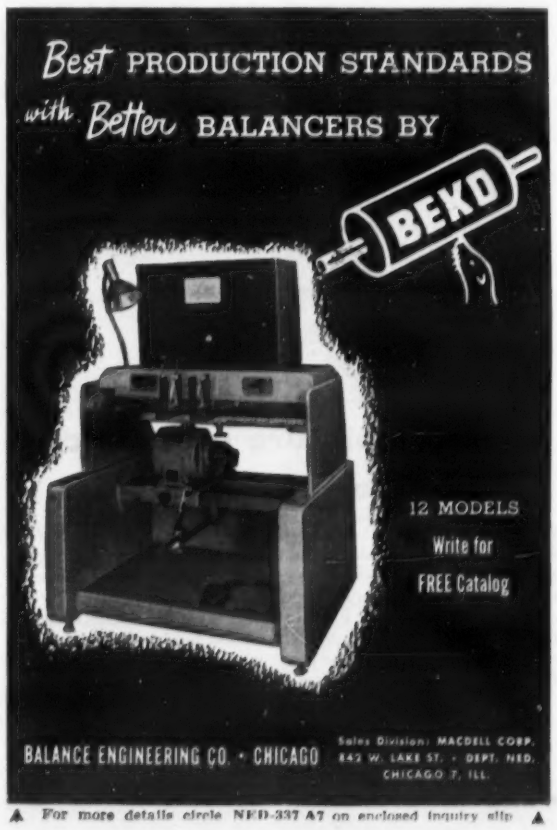
PIPE & BOLT THREADER cuts threads up to 12 in. long



From 1/8 to 2-in. pipe and bolts from 1/4 to 2 in. can be threaded up to 12 in. by the Speed-O-Matic pipe and bolt machine. Improved, protected motor has a recessed switch. Machine features a Power-Grip wrenchless chuck and pivot-mounted cutoff, dieheads and reamer. Clear-Vu self-centering wheel and roller cutoff allows the operator to see the cut being made at all times. An oiling tube directs oil from the pulsating flow pump directly to the dies. It shuts off automatically when moved out of position. Machine has a lathe-type thread length indicator and 9-in. carriage travel. Made by **Beaver Pipe Tools, Inc.**, 310 Dana Ave., Warren, O.

For more details circle NED-336 A7 on enclosed inquiry slip

Best PRODUCTION STANDARDS with Better BALANCERS BY



12 MODELS
Write for FREE Catalog

BALANCE ENGINEERING CO. • CHICAGO
Sales Division: MACDELL CORP. 842 W. LAKE ST. • DEPT. NED. CHICAGO 7, ILL.

For more details circle NED-337 A7 on enclosed inquiry slip

FERANCE BEAM COMPASS

SAVE TIME and MONEY

Actual size courser with 9/16" x 9/32" beam section.

Beam lengths from 7" to 72" . . . one piece anodized aluminum.

Choice of colors in attractive plastic coursers with metal inserts at all wear points. Nylon coursers now available.

3 sets available, individually priced from $3.25 (15% quantity discount on 3 sets or more).

Sets in attractive boxes with segmented 9¾" long, aluminum or wood beams . . . lock firmly together.

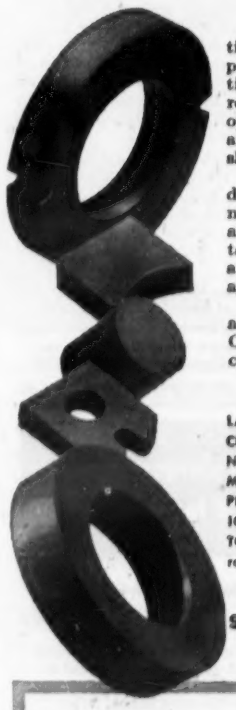
Send For Circular and Price List Today

FERANCE Construction Co.
28 Woodside Drive • Penfield, N. Y.

For more details circle NED-338 A7 on enclosed inquiry slip

NOW! A NEW PEAK IN

Magnetic Permanency!



It's next to impossible to demagnetize Stackpole Ceramagnet® (ceramic) permanent magnets under any condition of use! Magnetism is permanently retained even in the presence of strong opposing fields or when the magnets are used without "keepers" or other short-circuit conditions.

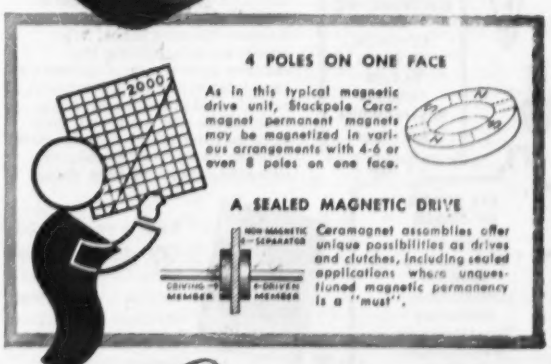
Ceramagnet magnet energy product is adequate for practically any need. Non-critical ceramic materials are used exclusively. Electrical resistance approaches infinity. Eddy losses are practically nil. Permeability of approximately 1.0 is about that of air.

In most applications requiring relatively large sizes or intricate shapes, Ceramagnet Magnets show important cost savings.

Present and potential uses include:
LATCHES • DRIVES • POLE PIECES • DOOR CHECKS • SHUNTING CONTACTORS • MAGNETIC CHUCKS • MOTOR ROTORS • TOYS METERS • RELAYS • OIL FILTERS • COUPLINGS • SMALL GENERATORS • MAGNETOS ION TRAPS • H-F ALTERNATORS • REGULATORS • FOCUSING or DEFLECTING for cathode-ray tubes . . . and dozens of other applications.

WRITE FOR CATALOG RC-10A
STACKPOLE CARBON COMPANY
St. Marys, Pa.

4 POLES ON ONE FACE



As in this typical magnetic drive unit, Stackpole Ceramagnet permanent magnets may be magnetized in various arrangements with 4-6 or even 8 poles on one face.

A SEALED MAGNETIC DRIVE

Ceramagnet assemblies offer unique possibilities as drives and clutches, including sealed applications where unquestioned magnetic permanency is a "must".

STACKPOLE CeraMAGNET®

The Permanent Magnets that are REALLY PERMANENT!

For more details circle NED-339 A7 on enclosed inquiry slip

Wolverine

Heavy Duty

QUICK ACTION TOGGLE CLAMPS

Extra CLEARANCE
Extra SPEED

and now Extra SERVICE

assured by the use of

HARDENED PINS & BUSHINGS

at all bearing points, in the popular C-100, CQ-1100, and CQ-800 series Toggle Clamps.

Rugged construction—drop forgings, cast steel and solid bar stock.

Wolverine Toggle Clamps also available in several types and sizes of Standard Action and Push Action units.

Write for Bulletin

CQ-1100 Series

CQ-800 Series

WOLVERINE TOOL CO.
1482 E. WOODBRIDGE
DETROIT 7, MICHIGAN

For more details circle NED-340 A7 on enclosed inquiry slip

you can DIAL your ADJUSTMENT on this AGASTAT® time/delay/relay

Frequent time adjustments are no problem with the dial head available on AGASTAT time/delay/relays. They provide a complete range of adjustment with 1 revolution of the dial. Dial markings permit easy calibration for accurate adjustment. And you can spot each of the 4 timing ranges quickly because they are color coded: blue from 30 seconds to 15 minutes; red from 10 seconds to 2 minutes; yellow from 0.1 to 10 seconds; white from 0.1 to 3 seconds.

Like all AGASTAT relays, units with dial heads are solenoid actuated, pneumatically timed. Each model is available with either dial head or needle valve adjustment. Where frequent readjustment of timing is necessary, dial head adjustment should be specified. For bulletin on all popular AGASTAT time delay relays, write to: Dept. A28-15

AGA DIVISION

Elastic Stop Nut Corporation of America

1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing

For more details circle NED-341 A7 on enclosed inquiry slip

ALLIED the world's largest supplier of ELECTRON TUBES for industry

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EIMAC
GE
ELECTRONS, INC.
RCA
RAYTHEON
SYLVANIA
TAYLOR
TUNGSOL
WESTINGHOUSE
and others

Immediate delivery from stock saves you time, effort and money

At ALLIED, we constantly stock for *quick shipment* the world's largest inventory of special-purpose electron tubes. We specialize in supplying the electron tube needs of industry, broadcast stations, laboratories, schools and government. Save time, effort and money on your electron tube orders—phone, wire or write us anytime for expert, *immediate shipment from stock.*

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Oscillograph
Ignitron
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Klystron
and all others

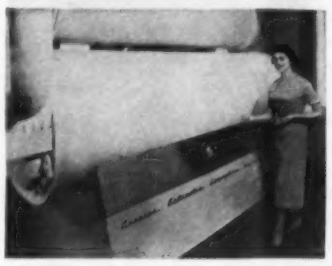
Refer to your ALLIED Catalog for everything in electronic supplies. Copies of our latest 356-page 1957 edition are available FREE on request.

ALLIED RADIO
100 N. Western Ave.
Dept. 37-A-7, Chicago 80, Ill.

EVERYTHING IN ELECTRONICS FROM ONE DEPENDABLE SOURCE

For more details circle NED-342 A7 on enclosed inquiry slip

REFRIGERATING MACHINES 60 and 80-ton sizes use heat energy to produce cooling



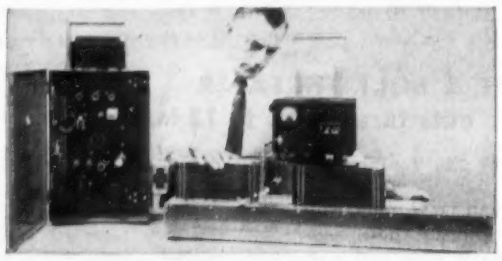
Automatic absorption refrigerating machines which use heat energy to produce cooling are now available in 60 and 80-ton sizes in addition to the 100 to 700-ton size range previously offered. Smaller machines are designed for small office buildings and light manufacturing plants. They have no major moving parts and use plain water as a refrigerant. Control is through a stop-go pushbutton, time clock or thermostat.

Machine will adjust automatically from full capacity output down to zero load, with little loss in efficiency. Steam, hot water, oil or chemicals can be used to generate cooling. Winter heating boilers can thus be operated for summer cooling as well. Vertical assembly of units allows placement against wall to occupy a minimum of floor area. Made by **Carrier Corp.**, 300-A S. Geddes St., Syracuse 1, N. Y.

For more details circle NED-343 A7 on enclosed inquiry slip

ELECTRONIC INSPECTION UNIT checks packages for uniformity of content, weight, level, appearance

High frequency current passed through an entire package by means of this electronic inspection unit effectively checks its contents for production uni-

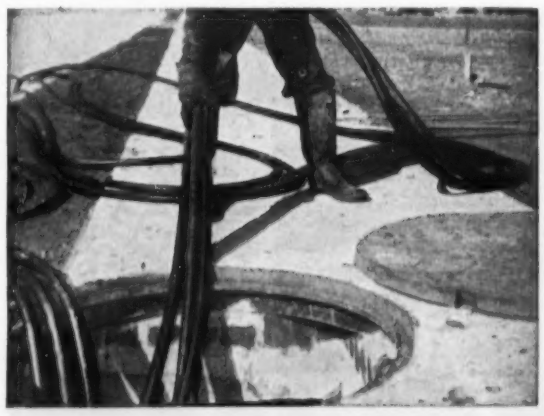


formity. All materials respond to this current in proportion to their own electrical properties, as well as to the volume of the materials present.

Certain materials conduct electrical current more efficiently than others, making it possible to single out certain materials inside a complicated package. Their presence in the desired quantity can also be determined, with other materials in the package ignored.

Packages can be checked for underweight, substandard level, less than full count, missing top or premium item, less than normal weight, bulk or type of contents and moisture content. Available from **Photobell Sales Corp.**, Dept. A, 43 Vesey St., New York 7, N. Y.

For more details circle NED-344 A7 on enclosed inquiry slip



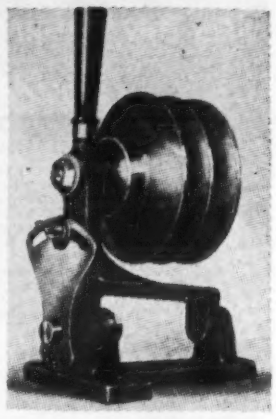
Better moisture resistance in rubber power cable!

Anaconda's Type AB butyl high-voltage insulation absorbs *far less moisture* than industry standards permit. Result: longer cable life, greater freedom from failure for users where rubber-type cable is installed in underground ducts or buried directly in earth. New Engineering Bulletin EB-27 gives full details on performance of Anaconda Type AB insulation in 15 Industry Specification Tests. Write for your free copy. Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y.

SEE THE MAN FROM ANACONDA®
—PIONEER IN BUTYL INSULATION

For more details circle NED-345 A7 on enclosed inquiry slip

VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameter, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

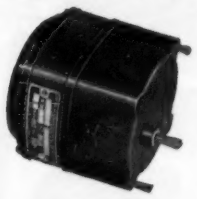
If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.**, 2224 Albion St., Toledo, O. Adv.

For more details circle NED-346 A7 on enclosed inquiry slip

For Critical Applications a

MINIATURE INDUCTION MOTOR

HOWARD MODEL 2500 (1/300 to 1/1400 H.P.)



DESCRIPTIONS & APPLICATIONS

Howard 2500 capacitor type induction motors are available in several models to meet various requirements.

(1) Standard Non-Synchronous Capacitor Motors—For general alternating current applications requiring stable speed induction motors.

(2) Torque Motors—Equipped with special high resistance rotors for high starting torque and variable speed operation.

(3) Standard Synchronous Motors—Recommended for instruments and timing devices and other work requiring exact, constant speed.

(4) Hysteresis Synchronous Motors—For constant speed applications requiring higher starting torque and quieter operation.

Available with or without gear heads with ratios from 6:1 to 3600:1. Write today for complete data.

HOWARD MOTORS

HOWARD INDUSTRIES, INC.
1740 State Street, Racine, Wisconsin
DIVISIONS: ELECTRIC MOTOR CORP. • CYCLOHM MOTOR CORP. • RACINE ELECTRIC PRODUCTS

For more details circle NED-347 A7 on enclosed inquiry slip

Here's the full story on . . .

Corning's Chemically Resistant* Plate and Flat Glasses

(*They're Heat-Resistant, too.)

A brand new bulletin, PE-34, "Corning Flat Glasses" gives you properties, specifications and applications.

This valuable addition to your reference file contains data on four different glasses—PYREX brand No. 7740, VYCOR brand No. 7900, a special coated infrared reflecting type, and heat-resistant blue observation.

This bulletin shows you where and how to use each kind, how to match type to task, what shapes and sizes are available.

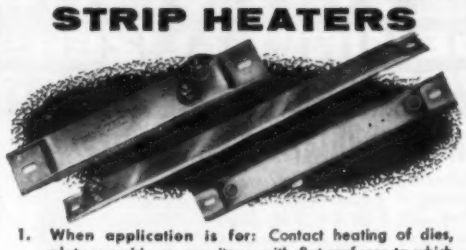
That's Bulletin PE-34. We'll be glad to send you a free copy.

CORNING GLASS WORKS
56-1 Crystal Street, Corning, N. Y.
Corning means research in Glass

For more details circle NED-348 A7 on enclosed inquiry slip

When to Specify

VULCAN ELECTRIC STRIP HEATERS



1. When application is for: Contact heating of dies, platens, molds, or any items with flat surfaces to which elements may be clamped. Also air heating source for ovens, air ducts, dryers.
2. When specifications call for: Seamless one-piece sheath; rugged non-oxidizing terminal posts; steel sheath for sheath temperatures to 750°F; Chromalloy sheath for sheath temperatures to 1200°F; 8" to 42½" lengths (or longer); 150 to 1500 watts (or higher).
3. When you have "hot" problems: Vulcan Engineers are ready to supply special heating units — engineered to your needs. Write for free catalog.

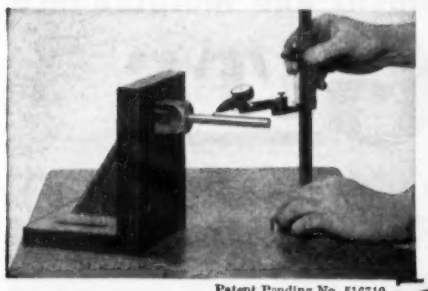
VULCAN

VULCAN ELECTRIC COMPANY • DANVERS 7, MASS.

Cartridge • Strip • Tubular • Immersion Electric Heaters
Soldering and Branding Irons • Solder and Glue Pots

For more details circle NED-349 A7 on enclosed inquiry slip

FOR PRECISION CHECKING OF ANGLE PLATES...



Patent Pending No. 516710

MAGNACHECK

saves time and labor, cuts inspection costs

Positively proves angle of deviation from true horizontal or vertical. Powerful permanent Alnico magnet holds Magnacheck firmly on surface to be checked. No clamping—self-proving—positive and accurate—a non-magnetic stainless steel checking tool you can't afford to be without. Comes complete with storage case.

$18.00
F. O. B. Big Rapids, Mich.
ORDER TODAY —DEPT. ND-17

Patent Pending No. 516710

MAGNA-LOCK, INC., Big Rapids, Mich.

For more details circle NED-350 A7 on enclosed inquiry slip

Send for free booklet

NEW!

"K-MATIC" PORTABLE DRILL UNIT

...for hard metal drilling

The new "K-MATIC"* positive feed drilling attachment—used with Keller air drills—combines best features of an automatic precision drilling machine and a portable hand drill.

Drills clean, true holes in titanium, stainless steel and other hard metal alloys.

"K-MATIC" features

Handles drills ⅜" and smaller . . . develops up to 1000-lb. thrust . . . positive lead screw prevents plunging on break-through . . . drills sandwich construction with uniform penetration . . . drill bit returns quickly, automatically . . . may be set to drill at any angle . . . weighs less than 5 lb.

*Trade-Mark

Write for free booklet—specifications.

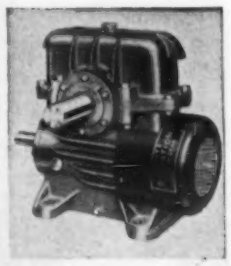
GARDNER-DENVER

KELLER TOOL division, Grand Haven, Michigan

THE QUALITY LEADER IN COMPRESSORS, PUMPS, ROCK DRILLS AND AIR TOOLS FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

For more details circle NED-351 A7 on enclosed inquiry slip

WORM REDUCERS are furnished fan cooled



All units in the Crofts line of Radiation worm reducers are furnished fan cooled as standard equipment. Reducers are available in sizes from fractional to 450 hp. in stock ratios from 5:1 up to 100:1. Used by original equipment manufacturers, reducers are cool-running and require no maintenance apart from periodic lubrication. Available sizes range from 3½ to 14-in. centers. Made by **Rockwood Pulley Mfg. Co.**, Dept. A, 20 Crosby St., New York 13, N. Y.

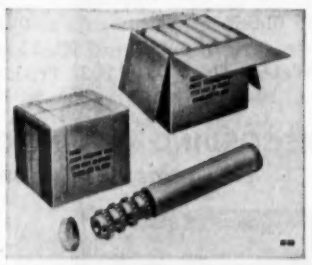
For more details circle NED-352 A7 on enclosed inquiry slip

VIBRATION MOUNTS in load ranges from 2½ to 20 lb

Ninety per cent of electronic equipment now used on aircraft can be isolated with one or more of series 210 Class A vibration mounts made in load ranges of 2½ to 5, 5 to 10 and 10 to 20 lb. Design consists of two load-carrying springs, a circular coil spring and two wire mesh pads. Natural frequency of 10 cps and low magnification factor of 1½ at resonance makes possible accurate readings of radar scopes and other sensitive equipment. The all-metal captive type mounts weigh only 3½ oz and are available with short or long studs. Made by **T. R. Finn & Co.**, Electronic Div., Dept. AT, 200 Central Ave., Hawthorne, N. J.

For more details circle NED-353 A7 on enclosed inquiry slip

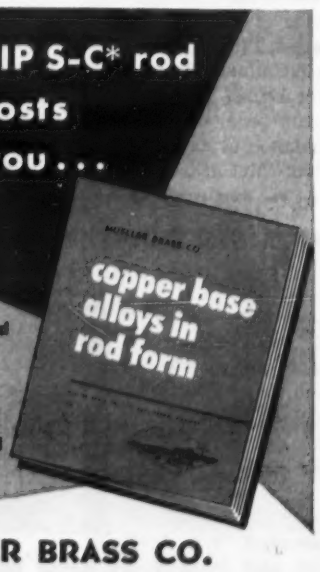
GEAR PACKAGING SYSTEM offers transit, storage protection



Packaging system to protect fine and medium pitch gears during transit uses cardboard mailing tubes. After final inspection, gears are inserted in the tubes for packing in wire bound shipping cartons. Eighteen tube sizes from ½ to 4 in. diameter accommodate most of the various gear sizes produced, with larger gears packed individually. Gears can be stored in the tubes until needed for assembly and can be handled easily in multiples. Inventory checking is also speeded. Developed by **Micro Precision Gear & Machine Corp.**, 1734 E. 30th St., Cleveland 14, O.

For more details circle NED-354 A7 on enclosed inquiry slip

new RED TIP S-C* rod can cut costs for you...



"super-cutting" rod produced semi-continuously available only from the MUELLER BRASS CO. . . . send for complete manual

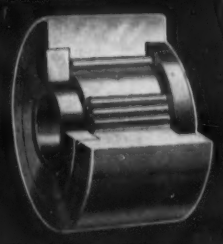
MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

194

please send me a copy of your ENGINEERING MANUAL FM-3010
NAME
COMPANY
ADDRESS

For more details circle NED-355 A7 on enclosed inquiry slip

McGILL® yoke mounted for cam action



or use as guide and support rollers

CAMROL TRADE MARK

CYR BEARINGS

This CYR series cam follower is especially built to use the full advantage of CAMROL Cam Followers in a yoke mounting. An inner race replaces the stud to permit mounting in a yoke or on a shaft when desirable. Both this CYR series and the standard CF series cam followers offer design advantages that provide shock load resistance, precision accuracy, simplified lubrication and longer bearing life in any automatic machinery. Roller diameter sizes range from ¾" to 4".

Write for helpful bearing handbook No. H-54-B

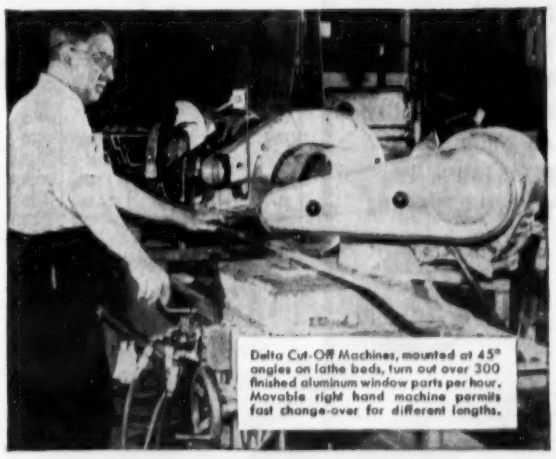
McGILL® *precision needle bearings*

McGILL MANUFACTURING CO., INC.
101 N. LAFAYETTE STREET VALPARAISO, INDIANA

For more details circle NED-356 A7 on enclosed inquiry slip

ROCKWELL-BUILT

DELTA cut-off machines



Delta Cut-Off Machines, mounted at 45° angles on lathe beds, turn out over 300 finished aluminum window parts per hour. Movable right hand machine permits fast change-over for different lengths.

...save cost of expensive special equipment

for General Bronze Corp., Garden City, L. I.

FAST, ACCURATE—By adapting versatile Delta Cut-Off Machines for limited custom production runs, General Bronze eliminated the need for costly special tooling. The Delta machines give them the accuracy and fast change-over needed for high speed precision work.

COST LESS TO BUY, OPERATE—Delta machines do precision work fast, and at far less cost. "These Delta machines have been in constant use for at least 15 years," says Joseph Gafney, plant engineer. "They consistently give us exacting, trouble-free operation."

LITTLE MAINTENANCE, FAST SERVICE—According to Mr. Gafney, the little maintenance that's been required has been done quickly and easily. "Delta salesmen have provided fast, dependable service when we've needed it," says Mr. Gafney.

SEE THE ENTIRE DELTA CUT-OFF MACHINE LINE: Compare—and make up your *own* mind! Your Delta Dealer is listed under "TOOLS" in the Yellow Pages.

DELTA ROCKWELL — another product by **ROCKWELL**

SEND FOR ALL THE FACTS TODAY!

Delta Power Tool Division, Rockwell Manufacturing Co.
626A N. Lexington Ave., Pittsburgh 8, Pa.

☐ Please send catalog on entire Delta Cut-Off Machine line.
☐ Please send booklet: Delta Power Tools Teamed with Machine Tools.
☐ Please send names of my nearest Delta Dealers.

Name Title
Company
Address
City County State

For more details circle NED-357 A7 on enclosed inquiry slip

WICKWIRE

will help you select the right spring or formed wire

Contact the Wickwire engineers who specialize in springs and formed wire design . . . they can work from sketches or handmade samples.

Get the whole story today. Write for your copy of Wickwire's *Springs and Formed Wires manual* (Bulletin S-500). Wickwire Spencer Steel Division, The Colorado Fuel and Iron Corporation, P. O. Box 551, Palmer, Mass.

THE COLORADO FUEL AND IRON CORPORATION—Denver and Oakland
WICKWIRE SPENCER STEEL DIVISION—Atlanta • Boston • Buffalo • Chicago
Detroit • New Orleans • New York • Philadelphia
CF&I OFFICES IN CANADA: Montreal • Toronto

CF&I WICKWIRE SPRINGS AND FORMED WIRES 4290

PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

▲ For more details circle NED-358 A7 on enclosed inquiry slip ▲

how large is small?

DAVEN'S NEW MINIATURE WIRE WOUND RESISTORS PROVIDE AS MUCH AS 400K RESISTANCE IN 1/4" x 5/16" SPACE

Types and Specifications

Type	Dia.	Length	Max. Ohms	Max. Watts
1274	3/16	3/8	100K	0.25
1273	1/4	5/16	400K	0.25
1283	1/4	5/16	400K	0.25
1284	1/4	27/64	.5 Meg.	0.25
1250	1/4	1/2	900K	0.33
1170A	7/16	1/2	1.2 Meg.	0.50
1170	1/2	1/2	1.8 Meg.	0.50

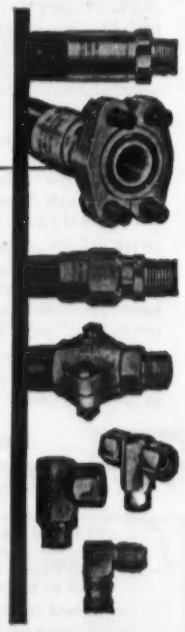
Write for our new resistor catalog.

THE DAVEN CO.
542 West Mt. Pleasant Ave.
Route 10, Livingston, N. J.

Special temperature coefficients can be supplied on request.

▲ For more details circle NED-359 A7 on enclosed inquiry slip ▲

Know that you have the Right Hose Assembly always — *Specify* **ANCHOR!**



Whether it is for high, medium or low pressure, there's an Anchor Hose Assembly that's been designed for the particular type of job you have in mind! Anchor Couplings are engineered for long, dependable service without danger of leaks or blow-offs and with a substantial margin of safety over specified operating pressure ranges.

Andy Anchor says:
The catalogs listed below offer you a wealth of engineering data and the complete construction details of Anchor Hose Assemblies, Couplings and Fittings. Send for them!

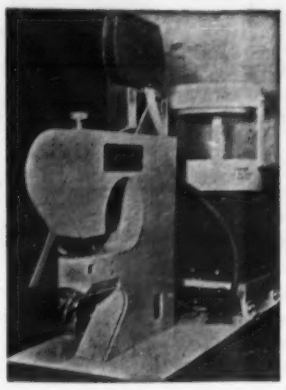
Catalog No. 100 — Anchor Pressed-On Hose Assemblies
Catalog No. 202 — Anchor Adapter Unions, Pipe Fittings and the new SAE Boss Type Fittings — see SAE standards, Page 825, 1956 SAE Handbook.
Catalog No. 301 — Anchor Clamp Type and Reusable Hose Couplings.

We will exhibit in both SAE Show in Detroit and Am. Road Building Machinery Show in Chicago.

ANCHOR COUPLING CO. INC.
306 North Fourth Street, Libertyville, Illinois
Branch Offices: Dallas, Tex., Plymouth, Mich.

▲ For more details circle NED-360 A7 on enclosed inquiry slip ▲

SQUEEZE RIVETING MACHINE
applies rivets, terminals, pins



Assembly of one or two parts driven together on a retaining or holding medium such as panels or fabrics is performed by the model 400 squeeze riveting machine. It can be built to order to perform a variety of fastening operations. Typical use is feeding of two parts from machine hopper above and below the anvil which, with a third part die cut from a plastic strip, are used to rivet buttons on overshoes. Feeding and insertion of varied terminals into printed circuit boards, and feeding and inserting of roll pins and Elastic Stop nuts are other uses. Made by **Aidlings, Inc.**, 95 Liberty St., New York 6, N. Y.

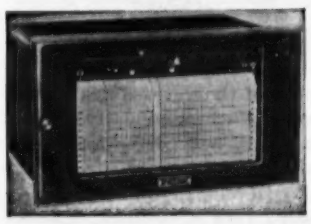
▲ For more details circle NED-361 A7 on enclosed inquiry slip ▲

OPTICAL HEIGHT GAGE
combines gage blocks, microscope

Measurement of heights up to 61 in., accurate within ±0.000005-in. for each inch of height, is possible with the Micro-Accurate optical height gage. Instrument combines gage blocks with the Leitz measuring microscope to give fast surface plate transfer of measurements. Stack of gage blocks, held by spring tension, is made up of alternating 0.300 and 0.700-in. blocks. Stack is divided into 1-in. measurements by protrusion of the 0.300-in. blocks. It is raised and lowered over 1-in. range by lever-operated cam and vernier hand wheel to obtain measurements to 0.000025-in. Four models measure to heights of 25, 37, 49 and 61 in. Made by **Webber Gage Co.**, 12922 Triskett Rd., Cleveland 11, O.

▲ For more details circle NED-362 A7 on enclosed inquiry slip ▲

RECORDING POTENTIOMETER
two pens record on 11-in. chart



This two-pen recording potentiometer with 11-in. recording width requires only 17.4 x 9.9-in. panel space and 12.5 in. depth for mounting in standard relay rack panel. Designed for lab and field applications, recorder has selsyn motor chart drive which provides 1, 2 or 5 in. of chart travel for 100 turns of selsyn, or a synchronous motor to provide standard chart speeds. Unit also features 2½-second pen speed with full scale travel on each pen; continuous electronic standardization of potentiometer bridge voltage; ranges of 10 mv or greater; 1 per cent sensitivity; 0.25-per cent accuracy; and a null balance system. Made by **Westronics, Inc.**, Dept. 12, 3605 McCart, Ft. Worth 10, Tex.

▲ For more details circle NED-363 A7 on enclosed inquiry slip ▲

WELDING POSITIONER
has load capacity of 500 lb

Engineered model 5P welding positioner for automatic and manual welding has a T-slotted 26-in. diameter circular table top with load capacity of 500 lb. Positioner is powered for both tilt and rotation by ⅓-hp motors with respective speeds of 135 degrees in 22½ seconds and 0.09 to 1.5 rpm. Handwheel for manual tilting can be supplied in place of tilt motor, and a disconnect clutch permits free hand rotation of table top. Foot-operated control can be furnished. Adjustable elevating subbase allows clearing floor with cumbersome weldments. Made by **Worthington Corp.**, Positioning Equipment Div., 401 Worthington Ave., Plainfield, N. J.

▲ For more details circle NED-364 A7 on enclosed inquiry slip ▲

Barnstead
DEMINERALIZERS FOR PURE WATER

IN LAB QUANTITIES . . .

Extremely convenient where only a small amount of demineralized water is required. Flow rate 5 to 8 G.P.H. Pressure Bantam (at right) flow rate 5 to 25 G.P.H. Connects to any tap. No heat or cooling water needed.

. . . OR ON A GIANT SCALE

If you want demineralized water in production-run quantities you'll find what you need for your requirements from Barnstead's versatile and complete line of single-bed, mixed-bed, 2-bed, and 4-bed Demineralizers — all producing, at lowest cost, often as little as 5c per thousand gallons, water of the highest purity. Write for Catalog 127.

Barnstead STILL & DEMINERALIZER CO.
16 Lanesville Terrace, Boston 31, Mass.

▲ For more details circle NED-365 A7 on enclosed inquiry slip ▲

For Proper, Low-Cost Replacement and Maintenance

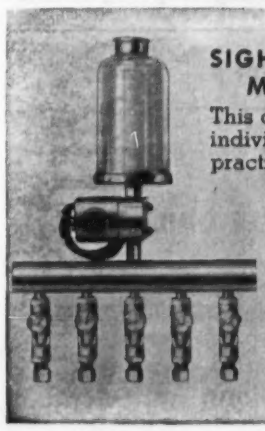
GITS

World's Largest Selection of Low-Cost Lubricating Devices

LUBRIKIT... An assortment of 95 oil cups of 29 different types. Gits sales records show these oilers are most used for replacement and maintenance. Contents of each separate bin are clearly described on inside cover.

Special Introductory Price JUST $14.95 F.O.B. FACTORY

Satisfaction or Your Money Back



SIGHT GRAVITY FEED MULTIPLE OILERS

This one unit replaces 3 to 8 individual oilers. Maximum practicality in a small central lubrication system. Positive cut-off during idle periods. Individual vibration-proof needle valve adjustments. With solenoid control (illustrated): Style MDS—No. 4685-A. Without solenoid: Style MD.

Too much machine "down-time"? Too much time wasted in servicing your machinery? Perhaps some old, worn lubricating devices need replacement. Maybe a different, more modern device will do the job more efficiently. Whenever you replace, specify GITS Lubricating Devices—the widest selection available anywhere, right in stock. The items pictured above are only a few of our many thousands of lubricating devices. Send NOW for your free Catalog.

GITS BROS. MFG. CO.
The Standard For Industry For Almost Half A Century
1833 South Kilbourn Avenue
Chicago 23, Illinois

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NOW... A PIPE JOINT COMPOUND FOR DESTRUCTIVE FLUIDS, GASES and TOXICS

For pipe joints, plugs, all types of threaded connections, screwed fittings and flanges—alloys such as stainless steel and monel, non-ferrous metals such as aluminum, also plastics, synthetic rubber and carbon.

Eliminate dangerous leakers and loss of expensive fluids with "John Crane" Chemlon® Pipe Joint Compound. You'll find it the safe and sure answer to your most difficult pipe sealing problems.

Chemlon Pipe Joint Compound is recommended for the most destructive services encountered in industry. Compounded from a chemically-inert DuPont Teflon base, it permits positive handling of practically all known acids, corrosives, alkalis, solvents, biologicals, gases and toxics at temperatures to 212°F. It is without substitute for severe or hazardous conditions.

Order a 2-oz. trial jar. Request Bulletin PLS 515 for further details.

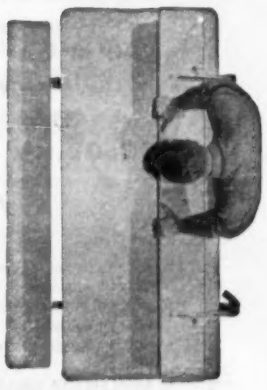
CRANE PACKING COMPANY

6411 Oakton St., Morton Grove, Ill. • In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

▲ For more details circle NED-367 A7 on enclosed inquiry slip ▲

free booklet

shows how your seating dollar buys more with the SICO system!



The Model 1900 (illustrated) is another member of the famous Sico line. Designed for the utmost in efficient seating, minimum maintenance requirements, the Model 1900 features:

- "Unitized" structural steel frame
- Long-wearing melamine plastic top
- Fold-up benches for easy cleaning and floor maintenance.

If your seating problem demands fixed seating, these rugged, attractive Sico tables offer the most economical solution.

The complete Sico line includes folding table-bench units, folding tables, and fixed tables with folding benches.

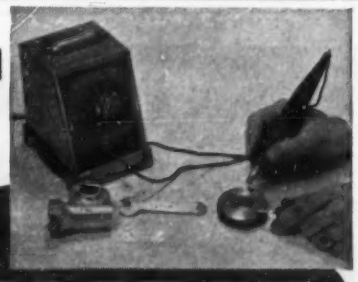
free booklet

shows how the Sico System saves you money, gives you *extra* floor space in your plant! Write today to:

SICO manufacturing company, inc.
5215 Eden Avenue South
Minneapolis 24, Minnesota • Dept. 512

▲ For more details circle NED-368 A7 on enclosed inquiry slip ▲

Mark Any Metal RAPIDLY, PERMANENTLY with the ACTOGRAP Electric Pen



Get the handy, easy-to-use ACTOGRAP PEN and arc etch all hard and soft, ferrous and non-ferrous metals quickly, permanently. This unit does not etch through vibration. It is an instrument that works through its patented features with the ease of a pen, engraves tools, parts, housings, castings, machinery, test blocks and fine equipment with identifying numbers or letters, trade names, model numbers, etc.

The ACTOGRAP PEN:

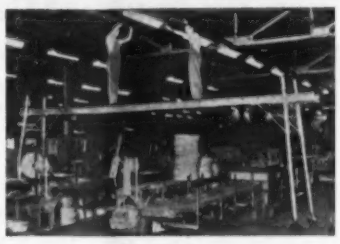
- has a specially designed transformer with a control for selecting voltage for any degree of etching depth.
- can be easily carried anywhere for use in or outside the plant. Battery power may be used as well as normal A.C. line current.
- marks on any metal can be removed only by grinding, filing or destroying the article.
- no special skill is required and the unit is as safe and as cool as a pencil.
- is unconditionally guaranteed.

Order this economically priced, sturdy tool or write for further details. Price, complete with transformer, $44.50.

NEWAGE INDUSTRIES
222 OLD YORK ROAD • JENKINTOWN, PA.

▲ For more details circle NED-369 A7 on enclosed inquiry slip ▲

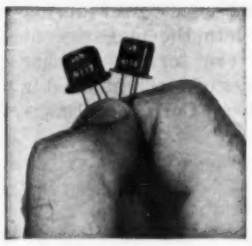
BRIDGE SCAFFOLD adjustable type made of aluminum



Portable Aldek bridge scaffold is an aluminum unit which is adjustable in length and height, the latter at all four uprights, to make possible use on inclined floors, stairwells and over machinery. It spans areas up to 30 ft long and 20 ft high and takes working loads up to 1600 lb. Snap-in rungs provide easy access to the slip-resistant work platform which can be used separately as stage, kicker or plank. Safety rails and toeboards are available. Unit rolls on heavy duty rubber-tired, lock-equipped casters. Made by **Aluminum Safety Products Inc.**, Dept. AL-1, 289 Fifth Ave., New York 16, N. Y.

▲ For more details circle NED-370 A7 on enclosed inquiry slip ▲

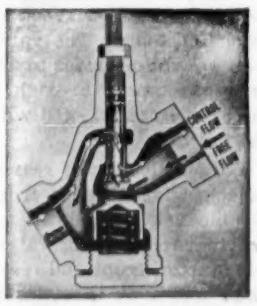
SILICON TRANSISTORS meet rigid Navy specifications



Built in accordance with MIL-T-19112A and MIL-T-19502, these grown junction silicon transistors provide high gain in small signal applications at temperatures to 125° C. Both USN-2N117 and 118 transistors have close parameter control to insure uniformity and welded case with glass-to-metal hermetic seal between case and leads. Ratings at 25° C ambient are: collector voltage referred to base, 30 v; emitter voltage referred to base, 1 v; 25 ma collector current; −25 ma emitter current; and 150 mw collector dissipation. Made by **Texas Instruments Inc.**, 6001 Lemmon Ave., Dallas 9, Tex.

▲ For more details circle NED-371 A7 on enclosed inquiry slip ▲

SPEED CONTROL VALVE adjusts cylinder air flow



This speed control valve provides split-second timing of cylinder piston movement by positive control of air flow. It can be mounted in any position, at either or both ends of cylinder. Available with screw driver slot or with knob or pin lever adjustment, valve can be disassembled easily without breaking the line connection. Poppet is only moving part. Made by **Ross Operating Valve Co.**, Dept. NED, 120 E. Golden Gate Ave., Detroit 3, Mich.

▲ For more details circle NED-372 A7 on enclosed inquiry slip ▲

PREFACE TO GREATER SALES

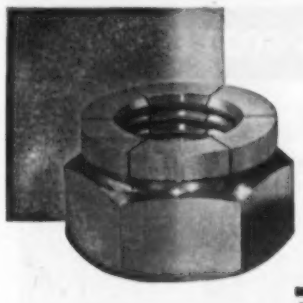
Profitable idea for display purposes and for guards or grilles on stoves, heaters, radios, coin-operated phonographs, etc., is *Minimesh* — the *small-mesh expanded metal.*

Decorative . . . it gives your product a clean, modern look that will step up sales. Functional . . . the openings permit free passage of sound, light and air.

Free descriptive folder 510-EM, could well be your first step to greater sales. Write today.

PENN METAL COMPANY, INC.
General Sales Office: 40 Central St., Boston 9, Mass.
Plant: Parkersburg, W. Va. PM-106

▲ For more details circle NED-373 A7 on enclosed inquiry slip ▲



specify standard FLEXLOC®

SELF-LOCKING NUTS

FLEXLOC DESIGN FEATURES

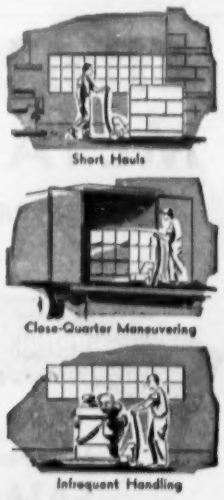
- one-piece, all-metal construction
- resilient locking section
- controlled locking torques
- lock and stop nut in one
- every thread carries its full share of load

DO YOU KNOW? Standard FLEXLOCs improve the finish of rough bolts. They smooth off rough threads. And the locking threads on all-metal FLEXLOCs are not chewed up when used on rough bolts. FLEXLOCs are stocked by authorized industrial distributors in a full range of sizes from #0 to 2". Write for Bulletin 866. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
FLEXLOC LOCKNUT DIVISION **SPS** JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-374 A7 on enclosed inquiry slip ▲

This truck . . . suits 'em all



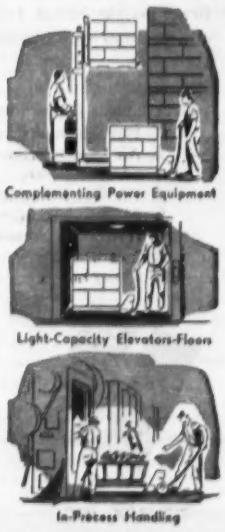
RAYMOND *Lightweight Hydraulic* **PALLET TRUCK**

MODEL L2P
Capacity 2,000 lbs.

WORLD'S MOST POPULAR pallet truck because it does so many jobs so well.

Superbly built to withstand years of use and abuse. Lightweight lessens operator fatigue. Easy to maneuver, easy to pull . . . patented booster roll permits effortless pallet entry. Convenient foot pedals lift and lower your load. Completely precision hydraulic for dependable operation.

Has aluminum alloy construction, husky one-piece welded steel frame, safe dual-purpose brake, 270° turning radius.



Mail Coupon for full details!

The RAYMOND CORPORATION
4104 Madison St., Greene, N.Y.

☐ Send bulletin on Lightweight Hydraulic Pallet Truck.
☐ Please have a RAYMOND representative call.

NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle NED-375 A7 on enclosed inquiry slip ▲

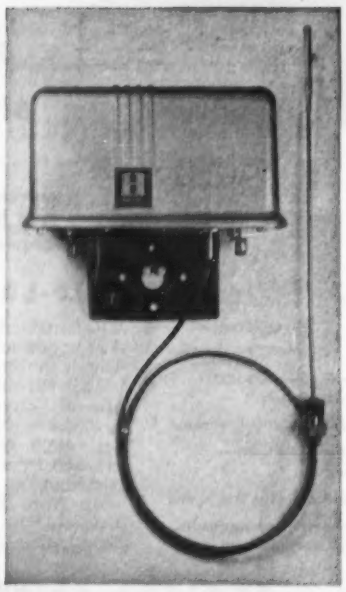
ONLY THE BEST IS GOOD ENOUGH...

Minneapolis-Honeywell Regulator Company, Brown Instruments Division, know this and so select BISHOP capillary tubing for their widely accepted, new Tel-O-Set Transmitter.

This is only one of many applications of BISHOP tubing in today's instruments . . . instruments that require quality components.

Next time you need tubing for precise instrument applications use BISHOP small diameter stainless steel tubing (.008" to 1.000" O.D.) . . . you can't buy better at comparable prices.

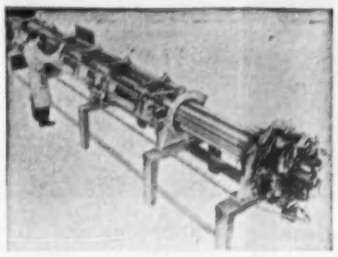
Catalog and Prompt Quotations on Request



STAINLESS STEEL PRODUCTS DIVISION
J. BISHOP & CO. Platinum Works
Malvern, Pennsylvania

For more details circle NED-376 A7 on enclosed inquiry slip

AUTOMATIC BAR FEED
enables multiple spindle automatics to run continuously, automatically



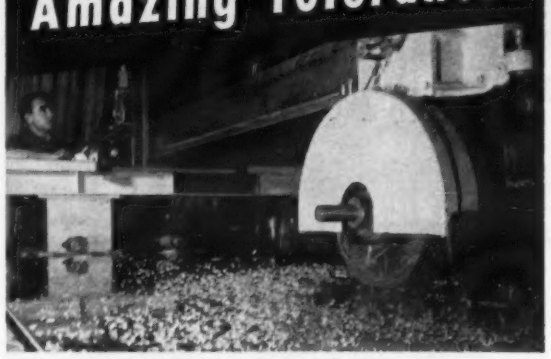
Indexing automatically to as many as eight fixed-stop positions, this bar feed for multiple spindle bar automatic machines holds several hours supply of stock, ejects remnants and reloads automatically. Time lost during manual or semiautomatic loading of stock is eliminated.

Self-contained unit consists of a magazine on which stock is racked diagonally; reel containing four, six or eight split stock tubes or spindles (corresponding to number of spindle positions on the machine); one air operated motor per spindle; stock pusher within each tube; air operated braking mechanism which stops spindle reel in the proper position; hydraulic check unit to control feed-out of stock; and safety shut-off device.

Operation requires no manual adjustment during run, and stock can be loaded into the magazine at any time. An auxiliary rack can further increase machine capacity. Range of sizes of stock handled is ¼ to 2 in. Made by **Lipe-Rollway Corp.**, 806 Emerson Ave., Syracuse, N. Y.

For more details circle NED-378 A7 on enclosed inquiry slip

For HIGH-SPEED CUTTING TO Amazing Tolerances



Low Investment Saw Saves Hours of Machine Finishing... Waste Metal

For real production cutting of sheet stock, plate, structurals, wood or plastic with clean accurate edges, investigate Ty-Sa-Man Saws. Dozens of models . . . cuts from 10" to 60 feet . . . 6" to 87" blade capacity . . . 3 to 125 HP.

Write Today For FREE BROCHURE

TY-SA-MAN Machine Company
550 WHITE AVE., KNOXVILLE, TENN.

For more details circle NED-381 A7 on enclosed inquiry slip

INDUSTRIAL TRACTOR
57-hp unit features power steering, 10 speeds forward and 12-v system

First of a new series of industrial tractors is the model 445 Industrial Wheeler which features integral power steering, 10 forward and two reverse speeds, extra heavy axles, 12-v electrical system and three-point hitch for tools. The valve-in-head engine with 7.3:1 compression provides 57 brake hp at 1750 rpm. High and low speeds in each of five forward gears and in reverse are selected without stopping, clutching or shifting.

Large selection of rear-mounted enclosed hydraulic pumps, driven directly from engine flywheel, is offered. Double-disk 6-in. brakes mounted on countershaft provide 4:1 braking ratio. Also standard are electric starter, front and rear lights, oil-bath air cleaner, hand and foot throttles and fenders. Attachments include loaders, backhoes, dozers, scrapers, mowers and compressors. Made by **Minneapolis-Moline Co.**, Dept. NED, Box 1050, Minneapolis 1, Minn.

For more details circle NED-379 A7 on enclosed inquiry slip

Modernair

NEW ¼" SOLENOID VALVE

for Air or Oil Hydraulic Service, 30 to 150 p.s.i.

★ ULTRA COMPACT...only 4-9/16" long, 3-5/16" high, 1-3/4" wide overall!
★ NON-CORROSIVE CONSTRUCTION...brass and aluminum throughout.
★ "O" RING SEALS...replaceable without disturbing piping.
★ AVAILABLE IN SINGLE OR DOUBLE SOLENOID for all popular a.c. or d.c. voltages.
★ 3-WAY (3 port) OR 4-Way (5-port) MODELS, with or without exhaust speed control valves as shown. Standard ports are female 1/4" NPT.

MODERNAIR's new BV Series ¼" solenoids put the answer to scores of fluid power control problems literally in the palm of your hand. Why not get the facts now? Write or wire for specifications, prices.

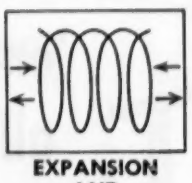
Modernair CORPORATION
Dept. F1, 400 PREDA ST., SAN LEANDRO, CALIF.
Member National Fluid Power Association 20

For more details circle NED-382 A7 on enclosed inquiry slip

Titeflex flexible METAL HOSE

SOLVES PROBLEMS OF . . .

Write today for Free new CATALOG



EXPANSION AND CONTRACTION

VIBRATION

TEMPERATURE

CORROSION

PRESSURE

Titeflex Flexible Metal Hose is made from brass, monel, bronze, carbon and stainless steel for conveying all types of organic and volatile liquids (as well as gases) within a broad temperature and pressure range for *every* type of industrial application.

If you work with "problem chemicals" or are confronted with any of the problems depicted in this column, be sure to investigate Titeflex Flexible Metal Hose. Design and engineering assistance without obligation.

This hose is now widely used for
1. Fire Extinguishers
2. Air Control Lines
3. Cleaning Vats
4. Air Conditioning Units
5. Milling Machines
6. Hydraulic Presses
7. Steam Lines
8. Many others

Titeflex
Flexible Metal Hose

TITEFLEX, INC.
Industrial Products Div.
507 Hendee Street, Springfield, Mass.
Please mail new Titeflex Catalog No. 200. No obligation!

Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State_____

For more details circle NED-377 A7 on enclosed inquiry slip

Send for your FREE COPY today

Discover how Clipper hooks and lacers save time and money in Belt Lacing

Detailed product information on Clipper Belt Hooks and Lacers and case history examples of Clipper machine-lacing benefits are contained in this new folder. Send for Bulletin No. 157 today.

Clipper BELT LACER COMPANY
976 Front Ave., N. W., Grand Rapids, Michigan
Ask your Industrial Distributor for Clipper Products

For more details circle NED-380 A7 on enclosed inquiry slip

SERVING INDUSTRY FOR 76 YEARS
Send Specifications for an estimate. Dept. 11

THE C.O. JELLIFF MANUFACTURING CORP.
Southport • Connecticut • USA

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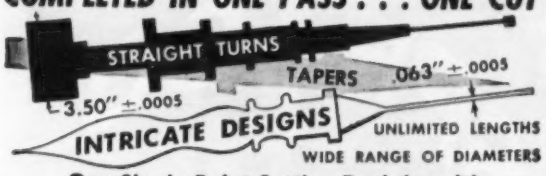
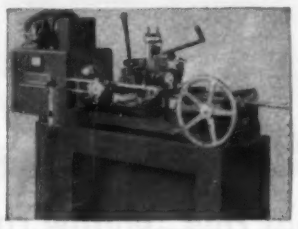
COMPLETED IN ONE PASS . . . ONE CUT



One Single Point Cutting Tool does it!

on the new *Large* **TURNOMAT** *Centerless* **TURNING MACHINE**

U.S. PAT. NOS. 2,464,813 AND 3,635,499 OTHER U.S. AND FOREIGN PATENTS PENDING



•Without the aid of centers or steady supports, TURNOMAT turns in one continuous pass . . . one plunge cut, micro-finished production pieces of endless lengths and a wide range of diameters, held to close tolerances. Practically no tool or set-up costs . . . a single point cutting tool cuts contours, shapes, tapers, sharp 90° shoulders and reverse turns.

Let TURNOMAT Engineers study your problem and make recommendations. Two standard models are available for 1/16" to 3½" max. round bar stock diameters. Larger size models made to your needs.

Write for Complete Data, Catalog Sheets and Prices.

TURNOMAT CO., INC.

56 Clinton Street • Brockport, N. Y.

For more details circle NED-384 A7 on enclosed inquiry slip

Only **TALK-A-PHONE** OFFERS

FULLY AUTOMATIC INTERCOM

with the *"Built-in-Brain"*

THE NEW **TALK-A-PHONE** *Super Chief*

YOUR OWN VOICE AUTOMATICALLY OPERATES THE TALK-LISTEN CONTROL FOR YOU.

For the discriminating executive...the only AUTOMATION Intercom System. The TALK-A-PHONE Super Chief brings you Built-in Automation, Automatic Voice Control, Automatic Traffic Control, Automatic Reply, Multi-Magic Selector, Conference Control, Automatic Monitoring Signal, Dynasonic Design, and many exclusive features.

TALK-A-PHONE has an intercom for your every need. Save time . . . save steps . . . save money with the intercom that has everything . . . does everything. From 2 to 100 stations — it's **TALK-A-PHONE.**

See your Dealer or write . . .

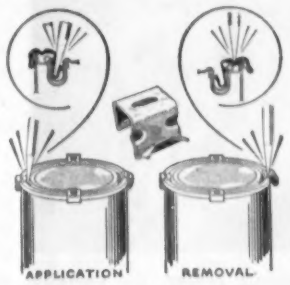
TALK-A-PHONE CO.

Dept. NE-1 1512 S. Pulaski Road • Chicago 23, Illinois

For more details circle NED-385 A7 on enclosed inquiry slip

CAN SEALING CLIP
applied or removed with screwdriver

Compression-sealing of cans of liquid being shipped through the mails is assured with these spring-steel Speed Clips. Positioned against hem of can and rolled by hand into pre-locked position, clips are locked into place with a quick rap of a screwdriver or simple tool. A sharp rap of screw driver placed in the notch frees the anchor leg from hem of can for easy removal of lid. Clips are available in all can sizes up to 1-gal capacity. Made by **Tinnerman Products, Inc.,** Dept. 14, Box 6688, Cleveland 1, O.



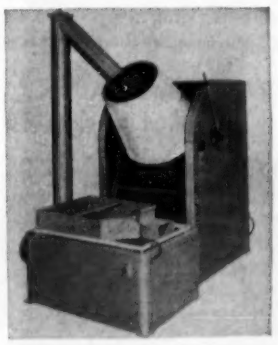
For more details circle NED-387 A7 on enclosed inquiry slip

PIPE & EQUIPMENT HANGER
eliminates vibration and noise

Helical steel spring is the high deflection vibration isolating medium utilized in line of Vibro-Hangers for suspending disturbance - generating equipment and piping. They withstand temperature extremes without permanent set or losing resilience. The noise and vibration eliminating units are offered in effective load ranges from 50 to 3800 lb. Spring is supplied in a box type housing, U-bracket housing or without any housing. Made by **Korfund Co.,** 48-19H 32nd Pl., Long Island City 1, N. Y.

For more details circle NED-388 A7 on enclosed inquiry slip

BARREL FINISHING EQUIPMENT
three models use hot sawdust



Three Speed-D-Burr hot sawdust drying and polishing units can be ordered as a barrel unit only, as a barrel unit with elevator refill (illustrated) or as barrel unit with standard mechanical separator. All have a heat-jacketed welded steel barrel of 5 cu ft capacity and utilize a ¼-hp 110-v single-phase gearmotor and gas venturi. Mity-Mite hot sawdust unit consists of top parts pan, bottom storage and handling pan for separation in an enclosed cabinet. Made by **Speed-D-Burr Corp.,** Dept. NED, 3613 San Fernando Rd., Glendale 4, Calif.

For more details circle NED-389 A7 on enclosed inquiry slip

Save Space with

Kinnear Rolling Doors

Originated by Kinnear, the interlocking steel-slat door meets any door need—large or small, in old or new buildings. Opening upward, it coils above the lintel **inside or outside** the building. It offers solutions to almost any "headroom" problem. It needs no "reserved space" for opening or closing action—all floor and wall areas around the door are fully usable all the time. Manual or motor control. Write today for full details.

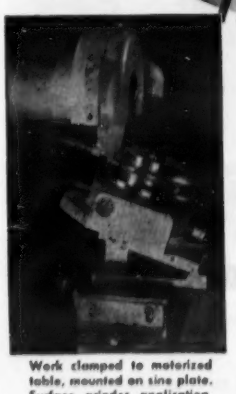
Saving Ways in Doorways

KINNEAR ROLLING DOORS

The KINNEAR Mfg. Co.

FACTORIES:
3017 Fields Ave., Columbus, Ohio
1742 Yosemite Avenue, San Francisco 24, Calif.
Offices and Agents in All Principal Cities

For more details circle NED-390 A7 on enclosed inquiry slip



Work clamped to motorized table, mounted on sine plate. Surface grinder application.

FASTER
circular precision grinding!

Now with this table and with less effort you assure highest standards of accuracy, flatness, finish and close tolerances. At the same time you eliminate slow and complicated tool setups. You cut grinding time greatly by using only cross feed while the table is rotating at infinite speeds between 40 and 100 RPM.

For example, Vulcan's Rotary Table can be used in connection with a sine plate or angle fixture. The dressing of large expensive external wheels for side grinding is therefore eliminated. If you wish we can provide permanent magnetic chucks designed for use with our table, both 6" and 10" in diameter.

Vulcan's Rotary Table is an air operated, self contained unit, portable between bench or machine. A precision center hole for locating and tapped holes in the table for clamping provides easy setup. Circular surface grinder applications are many and varied — grind flanged studs or bushings — bearing spacers — forming rolls — cutters — convex or concave surfaces — punches or dies (radius or angle).

Lapping? Yes — and in micro inches. For the 6" and 10" table, lapping plates of 12" and 16" are provided. Perfect for lapping valve plates, gages, bearing spacers and for carbide lapping using diamond powder. *Write for circular.*

Major Vulcan Services

Engineering, Processing, Designing and Building....Special Tools.....Dies..... Special Machines....Vulcamatic Transfer Machines....Automation....including the Vulcan Hydraulics that Form, Pierce, Assemble and size. Vulcanaire Jig Grinders . . .Motorized Rotary Tables . . .Plastic Tooling.

Write on your letterhead to

VULCAN TOOL CO.

739 LORAIN AVE. DAYTON 10, OHIO

For more details circle NED-391 A7 on enclosed inquiry slip

NEW "MICROFLO" PULSAFEEDER

controlled-volume chemical pump for pumping precise volumes at micro-flow rates

from $295 with totally enclosed motor

Now you can pump problem liquids safely and precisely. "MICROFLO" has no *stuffing box*—hence *no leakage, no corrosion, no contamination!* Pumping rate is adjusted manually while pump is idle or operating. All liquid handling parts are of corrosion resistant materials. Other Pulsafeeder models for higher flow, higher pressures.

Model LS-10, capacity 2300 ML per hr. at 1000 psig.
Model LS-20, capacity 1040 ML per hr. at 2000 psig.

WRITE *for Bulletin 500 which gives complete specifications. Lapp Insulator Co., Inc., Process Equipment Division, 846 Wilson St., LeRoy, N. Y.*

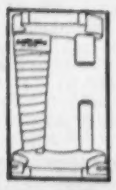
Lapp PULSAFEEDER

CONTROLLED-VOLUME CHEMICAL PUMP

For more details circle NED-386 A7 on enclosed inquiry slip

ON Dies EQUIPPED WITH

ELASTICONE GUIDE PIN COVERS



Day after day, year after year, manufacturers of ALL products are discovering how Elasticone Guide Pin Covers can work for them . . cutting die costs by eliminating the need for spare dies. Inexpensive Elasticones close the gap between pins and bushings, protecting dies against breakage . . protecting workers against injuries. Available in sizes to fit most pins and bushings.

Write for complete literature and new Technical Bulletin 53

CENTRAL Safety Equipment Co.

6607 Marsden St. PHILADELPHIA 35, PA.

▲ For more details circle NED-392 A7 on enclosed inquiry slip ▲

NOW! *the most versatile, precision*

DYNAMIC BALANCERS

...At Lowest Cost!

THE NEW STEWART-WARNER

Electronic Industrial Balancers

★ 3 models for use in single-piece, short-run or long-run production quantities.

★ Set-up time less than 2 minutes!

★ For balancing a wide range of work on same machine—with no special tooling, coupling devices or accessories needed to change jobs!

The new Stewart-Warner Industrial Balancers not only give you lowest first cost, but cut the cost of balancing *per piece* so low that even smallest shops can now afford their own precision balancing equipment! Handle single-piece, short-run and long-run production, as well as maintenance of your own machines. Semi-skilled workers can learn to operate them in one day! Extremely versatile, sturdy, accurate, engineered for years of service.

Only the Stewart-Warner Balancers Offer These Maximum and Minimum Ranges:

	Weight Range	Diametral Range	Length Range	Sensitivity
Model 704	½ lb. to 1000	½" to 44"	4½" to 55"	0.01 inch-oz.
Model 708	1 lb. to 5000	1" to 68"	7" to 83"	0.04 inch-oz.
Portable	In-place balancing of all rotating machinery.			

Write for FREE illustrated brochure on industrial balancing

STEWART SW WARNER

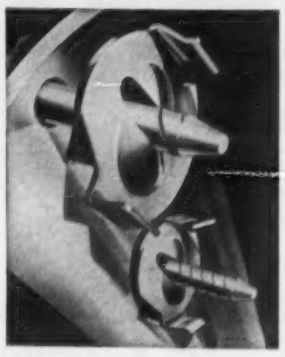
STEWART-WARNER CORPORATION

Stewart-Warner Corporation, Dept. E-17
1834 Diversey Parkway, Chicago 14, Illinois
Please mail me all the facts about Stewart-Warner Industrial Balancers.

Name .....
Company .....
Address .....
City ..... Zone ..... State .....

▲ For more details circle NED-393 A7 on enclosed inquiry slip ▲

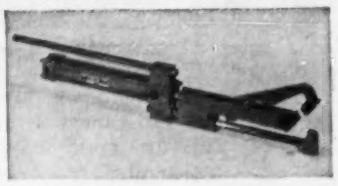
THREAD-CUTTING FASTENER
cuts threads on unthreaded studs



Die cut or cold forged nameplates, emblems and trim can be held against sheet metal surfaces by the TCF thread cutting fastener which cuts clean, deep threads on unthreaded studs, including those that are chrome plated. It can also be used in applications which require a spring take-up fastener. When used with a preassembled plastic sealer, the fastener makes a watertight seal. The reusable, self-locking, vibrationproof fastener is available for ⅛ and 3/16-in. studs. Made by **Carr Fastener Corp.**, Dept. 38, 31 Ames St., Cambridge 42, Mass.

▲ For more details circle NED-394 A7 on enclosed inquiry slip ▲

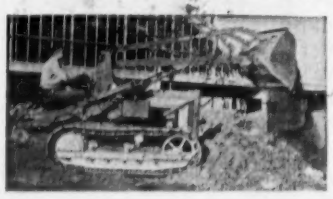
PRESS UNLOADER
removes vertical flanged stampings



Stampings having vertical flanges at the point of pickup can be unloaded by air-powered straight-line or swinging-arm press unloaders fitted with this vertical-flange jaw assembly. Air cylinder that opens and closes jaw features bronze piston head, floating bronze cushion, cartridge-type rod packings, chrome-plated piston rod, U-type piston packings and O-ring cylinder seals. Nylon or neoprene jaw inserts are available. Model 715 has 7-in. stroke and 1½-in. diameter cylinder, while model 820 has 8-in. stroke and 2-in. cylinder. Both have 1¼-in. jaw openings. Made by **Press Automation Systems, Inc.**, Dept. N.D., 18616 Wyoming Ave., Detroit 21, Mich.

▲ For more details circle NED-395 A7 on enclosed inquiry slip ▲

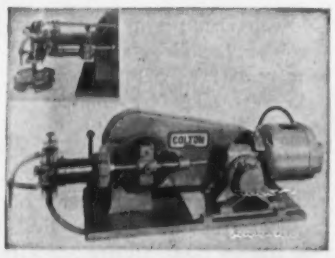
TRACTOR-LOADER
bucket has ⅝-cu yd struck capacity



Bucket of this 30-hp crawler tractor-loader has a reversible hardened steel cutting edge and replaceable malleable teeth. Capacity is 5/8-cu yd struck or 7/8-cu yd heaped. The loader frame is mounted on the cross bars of the crawler, placing the load on both tracks. Bucket break-away lift at ground level is 4500 lb. It can lift 2700 lb to a dumping height of 10½ ft. Steering-brake-clutches contribute to maneuverability, and travel in reverse can be at the same speed as forward travel without shifting gears. A rear-mounted, hydraulically controlled three or five-tooth scarifier and a variety of types and sizes of track shoes are available. Made by **Deere & Co.**, John Deere Industrial Div., Dept. D-53 A, Moline, Ill.

▲ For more details circle NED-396 A7 on enclosed inquiry slip ▲

BENCH LIQUID FILLERS
in single and twin nozzle models



Added to series 100 line of liquid fillers are Little Giant single and twin nozzle models designed for low production applications. These bench-type models are equipped with metering cylinder and valve assembly which includes adjustable suck-back control. Fast volumetric filling to within 1 per cent accuracy is possible. Wide variety of liquids with alcohol to cream oil consistencies can be handled. Single nozzle model 117 will fill forty 8-oz containers per minute, while double-metering model 119 will fill eighty 8-oz containers per minute. Latter can be equipped with manifold for metering 16 fluid oz from a single nozzle. Power is derived from geared head motor. Addition of standard rotary index table permits use with a conveyor belt. Made by **Arthur Colton Co.**, 3400-A E. Lafayette Ave., Detroit 7, Mich.

▲ For more details circle NED-397 A7 on enclosed inquiry slip ▲

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from ⅛ pint/min. to 4000 gal./min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Central St., Somerville 45, Mass.*

▲ For more details circle NED-398 A7 on enclosed inquiry slip ▲

NONSLIP SURFACE THAT GOES ON LIKE PAINT

Tread-sure, an abrasive-filled plastic brushcoating, produces an antiskid surface on wood, concrete or steel. Resists gasoline, alcohol, oil, grease and many types of acids. Provides nonslip safety footing on walkways or stairs whether the surface is wet, dry or oily, either indoors or outdoors. Available in Battleship Gray, Red, Green and Yellow. For full information, write: Dept. H15-168.

Subsidiary of Sun Chemical Corporation

A. C. Horn Co., Inc.
Long Island City 1, New York

DIVISIONS OF SUN CHEMICAL CORPORATION
HORN • HUDSON • WILLEY (paints, maintenance and construction materials, industrial coatings) • WARWICK (textile and industrial chemicals) • WARWICK WAX (refiners of specialty waxes) • RUTHERFORD (lithographic equipment) • SUN SUPPLY (lithographic supplies) • GENERAL PRINTING INK (Sigmund Ullman • Fuchs & Lang • Eagle • American • Kelly • Chemical Color & Supply Inks) • MORRILL (news inks) • ELECTRO-TECHNICAL PRODUCTS (coatings and plastics) • PIGMENTS DIVISION (pigments for paints, plastics, printing inks of all kinds)

▲ For more details circle NED-399 A7 on enclosed inquiry slip ▲

FASTER... SURER... INSPECTION

PRICES START FROM $10.95

Hundreds of uses, FLASH-O-LENS spotlights area it magnifies, speeds inspection, adds accuracy. Battery, plug-in models.

PIKE REG. U. S. PAT. OFF.

WRITE TODAY for literature showing uses, types, prices

Established 1927

E. W. PIKE & COMPANY

498 North Avenue Elizabeth 3, N. J.

▲ For more details circle NED-400 A7 on enclosed inquiry slip ▲

NEW LOW COST
NESTIER®
"GENERAL PURPOSE" BOXES AND BASKETS

Designed for
GREATER ECONOMY IN SMALL PARTS HANDLING

Completely redesigned, "General Purpose" materials handling boxes and baskets are priced one-third lower than other NesTier containers, yet incorporate all of their exclusive cost-cutting features. Empty units nest compactly . . . filled containers tier in rigid stacks. Available in five sizes, NesTier "General Purpose" boxes and baskets are pre-engineered for use throughout the plant.

Write today for literature. NESTIER

C 340 DN

THE CHAS. WM. DOEPKE MFG. CO., INC. 8884 Blue Ash Rd. Rossmoyne, Ohio

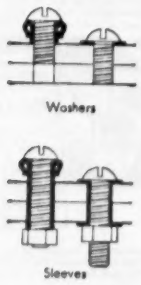
For more details circle NED-401 A7 on enclosed inquiry slip

NYLTITE®

"controlled flow" nylon washers and sleeves

The MODERN Fastening Improvements

- Dampen effect of vibration
- Form air-tight, leak-proof seal
- Prevent electrolytic corrosion
- Sleeves provide electrical insulation
- Provide excellent bearing surface and prevent galling



Slip NYLTITE washer or sleeve over bolt, screw, nail or rivet and tighten — compressive force "cold flows" sleeve around threads and under head sealing fastener. NYLTITE washers and sleeves available in wide range of sizes to fit any size screw.

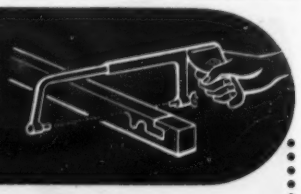
Send for samples and literature today

Pat. Pend.

NYLTITE CORPORATION of America
2331 Morris Avenue, Union, New Jersey

For more details circle NED-402 A7 on enclosed inquiry slip

most amazing saw blade you ever saw!

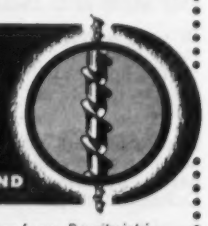


THE AMAZING
Tyler SPYRAL BLADE
for HACKSAWS • COPING SAWS • BANDSAWS

SAWS IN ANY DIRECTION...
up or down, right or left, even in circles!

SAWS ANY MATERIAL...
wood, metal, plastics, rubber, leather, etc.

SAFE, CANNOT CUT YOUR HAND



Fits any standard hacksaw or coping saw frame. Permits intricate work not possible with any other blade. No chipping or tearing . . . leaves clean, smooth edge.
Adapter sets available for Delta 14" bandsaws and all Do-All machines.
Hacksaw blades—29c each in lots of 10 to 49 blades. Prices on larger quantities and other items on request.
AT YOUR INDUSTRIAL SUPPLY JOBBER . . . OR WRITE TO:

TYLER MANUFACTURING CO. 1005 W. Arbor Vitae Ave., Inglewood, Cal.

For more details circle NED-403 A7 on enclosed inquiry slip

RUNG LADDER PLATFORM
diamond tread prevents slipping

Platform comfort while working on standard rung ladders is provided by this aluminum Res - Tep safety step. Device is easily changed from one rung to another and does not interfere with ascent or descent. Entire foot surface has deep diamond tread to prevent slippage. Most of the weight of a worker standing on the Res-Tep is applied to ladder upright, not on rungs. Device is practically impossible to dislodge unless grabbed with the hands. Made by **American Allsafe Co.**, Dept. N, 1245 Niagara St., Buffalo 13, N. Y.

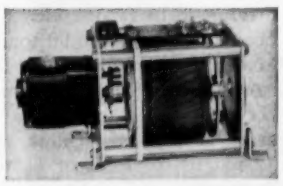
For more details circle NED-404 A7 on enclosed inquiry slip

GEAR LUBRICANT DISPENSER
fits 25 to 50-lb original containers

Portable, manually operated gear lubricant dispenser rapidly refills transmissions, differentials, gear cases, drives and other components. Its steel cover is clamped on any standard 25 to 50 - lb original refinery container for handling even the heaviest gear lubricants in any weather. A 5-ft hose with curved nondrip nozzle dispenses 1 pint per ten strokes at a maximum pressure of 400 psi. Made by **Lincoln Engineering Co.**, 5782 Natural Bridge Ave., St. Louis 20, Mo.

For more details circle NED-405 A7 on enclosed inquiry slip

MOTOR DRIVES
for Variac autotransformers



Motor drives with full scale traverse rates of 4, 8, 16, 32 or 64 seconds are available for recently announced W2 and W5 Variac autotransformers. A 2-second traverse can be had on W2, W2G2 or W5 Variacs. The 2 and 4-second drives are intended for servo operations and use motor with low moment of inertia and high angular acceleration. Gear reducer motor is attached to mounting plate which in turn is ganged to the Variac. Gear coupling between motor and autotransformer shaft reduces alignment problems and allows use of one motor for range of drive speeds. Made by **General Radio Co.**, Massachusetts Ave. & Front St., Cambridge 39, Mass.

For more details circle NED-406 A7 on enclosed inquiry slip

REDUCE PRODUCTION COSTS

Eliminate Extra Operations —Use Spiral's "Multiple-Operation" Step Tools

Carbide and High Speed

Step drills, step reamers, milling cutters, seating and grooving tools, trepanning tools, form tools, carbide and high speed, made to your specs or designed by our engineers to fit your needs. Form ground with "radial relief" gives up to 500% more tool life, imparts smoother finishes on piece parts. Send for details.

SPIRAL STEP TOOL COMPANY
Designers and Manufacturers of All Types of Special Cutting Tools
5400 N. Damen Avenue • Chicago 25, Illinois
Phone LOngbeach 1-5388

For more details circle NED-407 A7 on enclosed inquiry slip

WHICH WHEEL...
Helps YOU most?

Each of these Multi-Use "Brightboys" Gives a Completely New Slant on Abrasive Applications

Their unique working action of *abrasive and rubber* will BURR, FINISH, CLEAN, POLISH IN ONE OPERATION, save as much as 50% in time, perform types of work never before associated with abrasives.
Silicon Carbide and Aluminum Oxide Grains, each in grains from extra fine to extra coarse, in soft, firm and tough rubber binders.

Ask your dealer for recommendations and for the Brightboy Catalog. Write us if he cannot supply you or on any problem in which finishing is involved.

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street, Newark 7, N.J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

For more details circle NED-408 A7 on enclosed inquiry slip

How Convair stops Dermatitis before it starts

A simple safety precaution is preventing dermatitis at the huge $71,000,000 aircraft plant of Convair at Fort Worth, Texas. SAFETY ENGINEER S. A. GROSS (above) tells employees how to protect their hands against outbreaks of dermatitis with West PROTECTIVE CREAM #311. They cooperate—with their own well-being in mind. The result has been a reduction in the incidence of dermatitis to almost nil.

FREE

Would similar results interest you? Send for our 24 page booklet "The Control of Dermatitis in Industry." Just check the reader inquiry service in this magazine. Or write—

WEST DISINFECTING COMPANY
Dept. 16, 42-16 West Street, Long Island City 1, N. Y.

For more details circle NED-409 A7 on enclosed inquiry slip

NOW Flame hardened bed ways ... STANDARD EQUIPMENT at NO EXTRA COST!

ON ALL MODELS OF
CLAUSING 12" LATHES

With the introduction of flame hardened bed ways as standard equipment at *no extra cost*, another important exclusive feature has been added to the long list of *Plus Values* that make the Clausing 12" Lathes outstanding in their price field. Write for illustrated literature, and also literature on the new variable speed drive and 12" Hydraulic Tracer Lathe.

CLAUSING DIVISION ATLAS PRESS COMPANY
1-113 N. PITCHER ST., KALAMAZOO, MICHIGAN

For more details circle NED-410 A7 on enclosed inquiry slip

SPEED and SIMPLIFY HANDLING and STORAGE of PARTS, TOOLS and MATERIALS

STACKBINS FIT ANY CAPACITY REQUIREMENT OR SPACE LIMITATION IN PROCESSING, IN ASSEMBLY AND IN STOCKROOMS — Stackbin units stack solidly and compactly in flexible groupings to suit your needs. No tools or fasteners required.

STACKBINS REDUCE HANDLING TIME — SPEED PRODUCTION — Stackbins are used for intraplant transportation, on production lines and in assembly work. Full-flow hopper front and perfectly smooth interior of Stackbins keep contents always visible and easily accessible.

STACKBINS ARE MADE OF HEAVY ALL WELDED STEEL — AVAILABLE IN *SEVEN* STANDARD SIZES from 3½" x 6" x 3¼" to 15" x 24" x 11". Other sizes to order.

MOVABLE BASES AVAILABLE — Permit easy unit load handling. Improves housekeeping, makes cleaning easier.

WRITE TODAY FOR FULL INFORMATION — STACKBIN CORP., 1081 Main St., Pawtucket, R. I.

STACKBINS ARE SOLD DIRECT — A factory trained, Stackbin Sales Engineer will study your present facilities, at no obligation, and will make specific recommendations for efficiency improvement.

See information insert in Thomas' Register under "BINS".

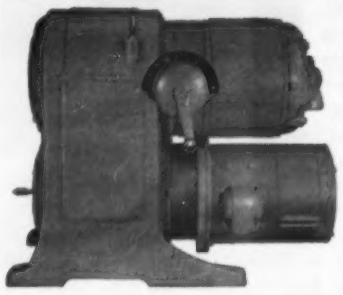
Mfgd. & sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

STACKBIN® SYSTEM
"Stacked and Still Accessible"

For more details circle NED-411 A7 on enclosed inquiry slip

COMPACT POWER UNIT
motor and alternator are on same side for compactness

Drive motor and alternator of this power unit are on the same side for compactness in installations where space is limited. Unit provides variable frequency power to motors in a Varidyne system designed for coordinating machinery, conveyors and other multiple drive operations. Driven at variable speeds, alternator generates frequency proportionate to its speed and transmits it to each motor in system. By changing speed in power unit, each motor is varied equally and simultaneously.



Dripproof, totally-enclosed and explosionproof motor enclosures are available, and single, double and triple reduction, as well as right-angle worm geared motors can be used. Speed ranges from 1 to 10,000 rpm and ratios up to 5:1 are available. Motors can be furnished from ⅓ to 30 hp at maximum rpm. Made by **U. S. Electrical Motors Inc.**, Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.

For more details circle NED-412 A7 on enclosed inquiry slip

DIESEL PILE HAMMERS
two self-contained units deliver 12,000 and 18,000 ft-lb blows

Advantages of mobility and ease of operation and maintenance are offered by two self-contained diesel pile driving hammers. Model DE-30 has a 3000-lb ram that delivers 45 to 55 strokes per minute with an average energy per blow of 18,000 ft-lb. It is suited for driving 1 to 3-ton piles at bearings from 40 to 90 tons. Model DE-20 with 2000-lb ram delivers the same number of strokes with an average energy per blow of 12,000 ft-lb. Piles of ½ to 2 tons can be driven at bearings from 25 to 60 tons.

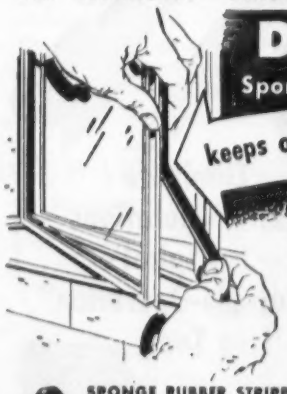
Single load line is used for engaging, hoisting and dropping the ram to start the hammer, and for hoisting and lowering the entire unit. A forced lubrication system provides a continuous flow of lubricant to the porous chrome wearing surfaces. Built-in fuel and lubricant tanks have sufficient capacity for 3 days of operation. Made by **McKiernan-Terry Corp.**, Dept. NED, Dover, N. J.

For more details circle NED-413 A7 on enclosed inquiry slip

For Windows—Jalousies—Stormdoors

DOR-TITE
Sponge Rubber Stripping

keeps out moisture, dirt, air



It insulates! It seals! It cushions! DURKEE-ATWOOD DOR-TITE is a *soft, resilient* sponge rubber stripping. It applies readily because of a factory-process, wet-type adhesive back. DOR-TITE won't stretch . . . won't creep . . . won't pull loose . . . available in needed width and thickness.

SPONGE RUBBER STRIPPING— Easy application, comes in exact width and thickness needed . . . requires no trimming. Factory processes for wet-type adhesive back requires no solvents. Dry back activated type also available. Patented non-stretch fabric back material eliminates creeping.

BULK SPONGE— Uniform cellular structure eliminates waste in re-working. Comes in 36" width. In three densities—soft and medium (3/32" to 1" thick) and firm (3/32" to ½" thick).

The Little Professor Says . . . "Let us send you samples of DOR-TITE for your product application."

Write Dept. NE-1

DURKEE ATWOOD V-BELTS

DURKEE-ATWOOD CO.
MAin 0441 Minneapolis 13, Minnesota

For more details circle NED-414 A7 on enclosed inquiry slip

take a good look at engineered ceramics

When you plan the development of a new product, or seek ways to further improve existing ones, take a good look at *engineered* ceramics in your planning. Our ceramic engineers have developed many new formulae and fabricating methods which greatly enlarge the usefulness of these amazing materials. Whether your problem involves critical or exacting electrical and mechanical properties, chances are *Frenchtown Engineered* Ceramics will provide a better answer. Check these advantages:

- MECHANICAL STRENGTH Compressive strength up to 187,000 psi.
- ABRASION RESISTANCE Demonstrated by use for sand blast nozzles.
- HEAT RESISTANCE Softening temperatures up to 1971° C.
- THERMAL CONDUCTIVITY Coefficient (c.g.s. units) up to 0.0180.
- THERMAL EXPANSION as low as 2% cumulative at 700° C.

Send for the helpful Frenchtown properties chart.

frenchtown PORCELAIN COMPANY
97 Muirhead Avenue | Trenton 9, New Jersey

For more details circle NED-415 A7 on enclosed inquiry slip

For more details circle NED-416 A7 on enclosed inquiry slip

For Chain Drive Users

COSTS GOING UP? KEEP 'EM DOWN

Yes sir! With over 1200 sizes to choose from, in all types, and more than 100,000 to draw on—your special sprocket is probably stock at Cullman.

What's more, complete chain drives are available "Off the Shelf" in all pitches, in different speed ratios.

Save time and cut costs on your next chain drive need. Specify stock—Cullman, that is.

Inquiries invited for specials in any type material or quantity. For full particulars write for catalog No. 51, or see your local Cullman distributor.

with **cullman** STOCK SPROCKETS

cullman POWER TRANSMISSION ROLLER CHAINS AND SPROCKETS
25552
REPRESENTATIVES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES
CULLMAN WHEEL COMPANY • 1333 ALTGELD ST. • CHICAGO 14, ILL.

For more details circle NED-417 A7 on enclosed inquiry slip

USEFUL ASKANIA BULLETIN on EDGE POSITION CONTROL

Describes and Illustrates

Methods of Obtaining Precise Belt and Conveyor Tracking

Here's a new informative bulletin by the Askania Regulator Company which shows:

1 How to automatically control edge position when:

A. Carrying material into a processing unit by means of a conveyor belt

B. Lateral weave of belt must be eliminated so as to keep material that the belt is carrying from falling off

C. Belt tracking is a problem

2 How to guide belt at intermediate points or at idler roll position

3 And specifically—WHAT makes the ASKANIA EDGE POSITION CONTROL more accurate, easier to install and maintain, easy to apply to any equipment traveling at any speed.

WRITE FOR BULLETIN NO. 39.1 to Askania Regulator Co., 258 E. Ontario, Chicago 11, Ill.

ASKANIA REGULATOR COMPANY
"CONTROLS FOR INDUSTRY"
HYDRAULIC, ELECTRONIC CONTROLS & SERVOS, GENERAL SYSTEMS, ENGINEERING & COMPUTER SERVICE, VALVE ACTUATORS & CYLINDERS
A SUBSIDIARY OF GPE

▲ For more details circle NED-418 A7 on enclosed inquiry slip ▲

Coffing Super Power

is the most efficient, lightest, safest hoist in its capacity class available today!

It's an exclusive Coffing-designed hoist using patented compound levers instead of bulky, heavy gears. It's more efficient (85%), more compact, with the greatest power-to-weight ratio and the highest safety factor of any ratchet lever hoist yet invented. Available in 6 models from 1½ to 5 ton capacities.

"Safety valve handle" bends at point of maximum safe overload—may be adjusted for length and operated from either side of the hoist—can't spin out of control. Ask your distributor or write for bulletin ADH51, Coffing Hoist Div., Duff-Norton Co., 803 Walter St., Danville, Ill.

COFFING HOIST
Division of DUFF-NORTON COMPANY

▲ For more details circle NED-419 A7 on enclosed inquiry slip ▲

CESCO...RIGHT—BEFORE YOUR EYES!

NEW! Flexible Plastic Goggles

MEET WIDE RANGE OF INDUSTRIAL APPLICATIONS

New CESCO No. 565 Flexible Plastic Goggles

• Extremely lightweight and durable—molded from soft vinyl material—these #565 CESCO Flexible Plastic Goggles protect workers from dust, splashing liquids and moderate impact from any direction.

Comfortable to wear • They are perfectly contoured and fit snugly all around. Small perforations, angled away from the eyes, give adequate ventilation.

Give complete protection • They leave no open spaces. Fit perfectly over most personal glasses.

Permit full view • Wide window lenses are curved rather than flat to allow best vision.

Available in two styles • No. 565C (with clear plastic lens) or No. 565G (with green plastic lens).

ASK your CESCO Safety Equipment Distributor to show you this new goggle and the many other goggles in the complete CESCO line

CHICAGO EYE SHIELD COMPANY
2322 Warren Boulevard
Chicago 12, Illinois

CESCO FOR SAFETY

▲ For more details circle NED-420 A7 on enclosed inquiry slip ▲

CONSTANT RINGING DROP for alarm systems has reset button

Suited for use with many types of industrial control alarms, fire alarm systems and annunciators, the No. 26 constant ringing drop can be supervised by thermal, liquid level, tachometer switch, voltage or current relay or other devices sensitive to specific conditions. It is designed for alarm systems where immediate attention is required for personnel or equipment protection, and where a reset feature is required to restore the alarm system. When the controlled condition is returned to normal, warning devices can be cut out by the reset button. Unit is available for 6-8 v dc or 8-12 v ac circuits. Made by **Edwards Co.**, 92 Connecticut Ave., Norwalk, Conn.

▲ For more details circle NED-421 A7 on enclosed inquiry slip ▲

SELF-ADHERING LABEL HOLDER label insert can be changed often

Easily affixed to shelves, boxes, bins, cabinets, racks, trays, equipment and even rubber overshoes, Hol-Dex self-adhesive label holders can be used for permanent or temporary labeling. Removable insert can be changed easily and quickly if contents of shelf or bin are changed. Strip is offered in ½, ¾ and 1-in. widths. A 6-in. long strip makes three standard-size label holders. Removable insert feature enables holders to be used for wall charts where displayed data may vary from time to time. Made in eight colors by **Cel-U-Dex Corp.**, 3 Main St., Brooklyn 1, N. Y.

▲ For more details circle NED-422 A7 on enclosed inquiry slip ▲

MONEY CHEST is drill and torch resistant

Exceptional resistance to torch and drill burglary attacks is featured by the TR-30 money chest. Torch protection is gained by a concealed, built-in resistance which qualifies chest for UL label. A drill resistive plate protects the entire locking mechanism. Chest also has UL-approved manipulation-resistive lock, the combination of which can be changed at any time with a special key. It is also available with or without two-key lock inner partitions for added holdup protection and can be purchased cased or uncased. Made by **Diebold, Inc.**, 1008 Mulberry Rd. S. E., Canton 2, O.

▲ For more details circle NED-423 A7 on enclosed inquiry slip ▲

NEW! NARROW BELT UNITIZED CONVEYOR

BELT WIDTHS OF 1" TO 6"

For Handling Small Dimension Light Weight Containers

Easy to install, economical to operate, this new Unitized Conveyor is available in any length of 5' increments, i.e. 5', 10', 15', 20', etc.

CONSTRUCTED of STANDARD PARTS

making it easy to lengthen the conveyor if increased production makes this necessary. Obsoleteness of equipment is eliminated. Ideally suited for the pharmaceutical, cosmetic, aerosol packaging, drug and chemical, plastics, food products and baking industries.

FREE! MAIL THIS COUPON FOR FULL DETAILS

ISLAND EQUIPMENT CORP. NED 1
27-01 Bridge Plaza North
Long Island City 1, N. Y.
Please send particulars on the Unitized Narrow Belt Conveyors.
COMPANY.....
BY.....
ADDRESS.....
CITY.....STATE.....

▲ For more details circle NED-424 A7 on enclosed inquiry slip ▲

WOW!!! UNBREAKABLE TAPS

SHEARCUTTER UNBREAKA TAPS

- Are practically unbreakable.
- End tapping trouble.
- Produce better tapped holes.
- Feed the chips out in front of the tap.
- Have an amazing long life.
- May be resharpened many times.
- Require only half the power generally required for tapping.
- Lower tapping costs.

SHEARCUTTER TOOLS COST *LESS*

These ultra-scientific cutting tools are used by practically every large manufacturing company in the U.S.A. Constant repeat orders prove their merit and value.

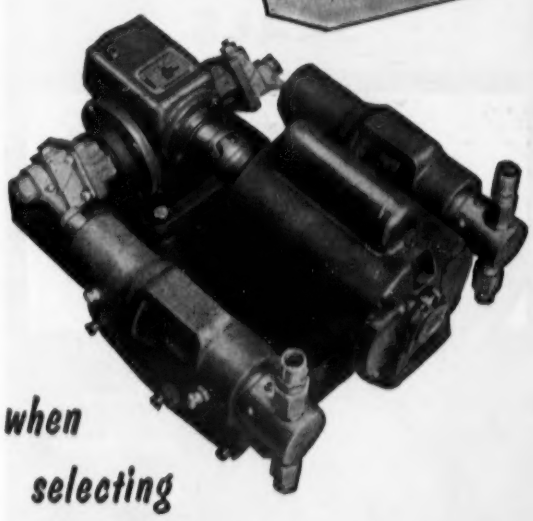
Patent Warning: All Shearcutter Tools protected by U.S. and Foreign Patents, received, pending or applied for.

SHEARCUT TOOL CO.
MANUFACTURERS OF THE WORLD'S MOST SCIENTIFIC CUTTING TOOLS
7045 Darby Avenue Dept. B Reseda, California

▲ For more details circle NED-425 A7 on enclosed inquiry slip ▲

PROPORTIONEERS, INC.

look beyond the **PRICE TAG**



when selecting

WINSMITH SPEED REDUCERS

● Wherever fluid proportioning is used in industry, the Model 1106 Proportioneer Pump is known for its work-horse stamina, its watch-like accuracy. Helping to build this reputation for ruggedness and precision, Winsmith Speed Reducers have been selected for use on these pumps since 1932.

Proportioneers, Inc., a division of B-I-F Industries, rate performance as the main reason for continued selection of Winsmith reducers but in looking beyond the price tag and the performance they pay for — they find a highly important *extra* that's not for sale but given freely at Winsmith — that's *co-operation* in helping customers to solve speed reducer problems.

As Proportioneers, Inc., puts it: *"...co-operation is one of those things that can't be covered by a price tag but it is one of the big reasons why we have stayed so long with Winsmith."*

When you select Speed reducers, keep this *extra* in mind. The services of our engineering department are always at your service to help you select the right reducer for every application from 1/100 to 85 h.p.

WINSMITH SPEED REDUCERS

WINSMITH, INC.
119 Eaton Street, Springville (Erie County) N. Y.

▲ For more details circle NED-426 A7 on enclosed inquiry slip ▲

ONE Clark LATHE TOOL HOLDER Grips 3 bit shapes

Clark LATHE TOOL HOLDERS do the *USUAL* and *UNUSUAL* JOBS BETTER IN EVERY SHOP—*SOLIDLY GRIP* ROUND, SQUARE and RECTANGULAR SHAPES—Enable turning, threading, boring with bars as well as cut-off operations with *ONE* tool holder!

Special vee clamp operating on diagonal accommodates several bit sizes, grips *full length of the cutter channel*. Holds bits tighter, eliminates chatter and harmonic vibration. Excellent rigidity for carbide tools!

4 Clark Lathe TOOL HOLDER SIZES cover complete range of lathe requirements from ⅛" bits to ⅝" bits. Write for prices or order from your dealer.

Robert H. Clark Company
9330 Santa Monica Blvd., Beverly Hills, California

▲ For more details circle NED-427 A7 on enclosed inquiry slip ▲

New, Triner Automatic PARCEL POST SCALE

The TRINER *Imperial*

NEW EXTRA LARGE, EYE-LEVEL, COLOR BAND CHART

FAST, ACCURATE READINGS THAT STOP COSTLY POSTAGE ERROR

Vertical color bands guide the eye for virtually instantaneous postage computation. The numbers are large, easy to read and the positive quick stopping knife indicator eliminates the possibility of error from "angle" readings. Famed Triner twin pendulum gravity system . . . no springs . . . assures money-saving accuracy. And there's new beauty, new construction features. Get the facts.

Triner

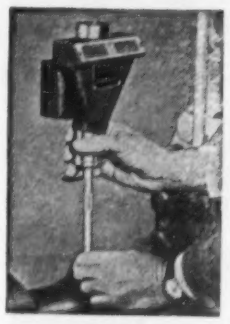
Write for Booklet

Over 200,000 TRINER SCALES are used by the U.S. POST OFFICE. Triner is also the scale most used by leading mail order houses. There's a Triner scale for every mailing requirement.

TRINER SCALE & MFG. CO.
2716 W. 21st Street • Chicago 8, Illinois

▲ For more details circle NED-428 A7 on enclosed inquiry slip ▲

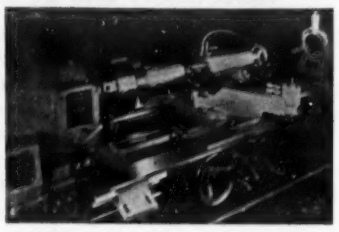
VIBRATION METER
125, 250 and 500:1 magnifications



Glass scale of modified Davey Vibrometer model P now slopes at angle of 30 degrees for equal visibility for vertical and horizontal vibration readings. Instrument measures vibration amplitude on machine structures and can also be used directly on surfaces of rotating shafts by means of an integral probe. Light from lamp powered by self-contained dry cells is reflected on graduated ground glass scale where amplitude indication appears as a band of light. Magnifications of 125:1, 250:1 and 500:1 are available from **Vibroscope Co.**, Dept. N, Box 97, Glenford, N. Y.

▲ For more details circle NED-429 A7 on enclosed inquiry slip ▲

HYDRAULIC TRACER ATTACHMENT
adapts lathe to production turning



Hendey No. 2E general purpose lathe can be adapted to production turning jobs with this packaged hydraulic tracer attachment. Included are pump and sump for mounting on floor at rear of machine. Drilling or tapping are not required to hold either tracer or template bracket on lathe. Attachment replaces standard compound and is held in place by two compound bolts. Two additional bolts hold template holding bracket, one at each end. A flat template is used for all production turning. Lathe has stepless speed control which provides operator infinitely variable electronic drive from 15 to 1500 rpm. A 5-hp 230 v dc variable speed motor drives the lathe. Made by **Barber-Colman Co.**, Hendey Machine Div., 10 Loomis St., Rockford, Ill.

▲ For more details circle NED-430 A7 on enclosed inquiry slip ▲

RELAY
uses electrostrictive units

An electrostrictive ceramic which instantaneously changes its dimensions when subjected to an electric field is employed in the Capaswitch nonmagnetic relay. Two electrostrictive ceramic capacitive units called Capadynes transfer the contacts. One milliwatt-second of energy and pulse duration as short as 5 microseconds will activate the unit which requires only 50 microwatts holding power to keep contacts closed. Unit is protected against 150 per cent overvoltage, has negligible temperature rise and is competitive in cost. Illustrated 1¼-oz unit is 3⅜ in. long with 1 3/16 in. diameter. Made by **Electric Machinery Mfg. Co.**, Mullenbach Div., 2100 E. 27th St., Los Angeles 58, Calif.

▲ For more details circle NED-431 A7 on enclosed inquiry slip ▲

ENTRAINMENT SEPARATOR
removes liquid from air and gases

Liquid particles are removed from pipeline air and other gases by this MV impingement type entrainment separator. Compact, self-contained unit is made of Karbate chemically-inert graphite rods, streamlined in cross-section, staggered in rows within a cylinder. As gas flows through cylinder, moisture particles impinge on the rods. Removal from steam at 4 in. of mercury ranges from 91 to 100 per cent for 3.6 to 11.0 micron particles and 0 to 99.8 per cent from air at 1 atmosphere. Unit can operate in −40 to 340°F range at pressures from full vacuum to 65 psig. Cylinders are 22 in. long and are stocked in 6, 8, 12 and 16-in. ID sizes. Made by **National Carbon Co.**, Dept. 1325, 30 E. 42nd St., New York 17, N. Y.

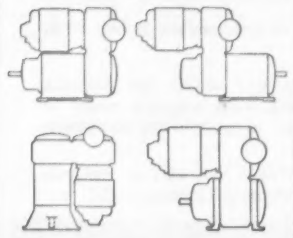
▲ For more details circle NED-432 A7 on enclosed inquiry slip ▲

REEVES fractional MOTODRIVE

The right speed for every need . . . in any place

and output shaft where you want it

Motor side, control side, or vertical down



▶ REEVES fractional hp. Motodrive is a complete power package, engineered in over 100 assemblies.

¼, ½, ¾ and 1 hp. units . . . 2:1 to 10:1 range . . . from as low as 3 rpm to a maximum of 4660 rpm.

Available in standard, weather resistant, totally enclosed, or splash-proof enclosures; full range of manual or automatic controls.

Write ND24e-V545 for ratings and dimensions

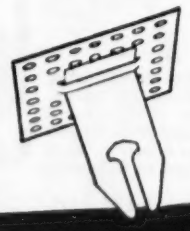
REEVES PULLEY COMPANY
Division of RELIANCE Electric and Engineering Co.
COLUMBUS, INDIANA

▲ For more details circle NED-433 A7 on enclosed inquiry slip ▲

INSULATION INSTALLATIONS

FASTER — EASIER — COST LESS!

Anchors by *Stic-Klips*®



Stic-Klips® are time and labor saving anchors and fasteners for attaching insulation, strapping, metal lath, wall fixtures, wiring and conduit to curved or flat metal or masonry surfaces. Stic-Klips® feature no surface drilling, quick fastening, no fire hazard and a strong positive bond.

Send for free illustrated folder.

Stic-Klip® MANUFACTURING COMPANY, INC.
64 Regent Street • Cambridge 40, Massachusetts

▲ For more details circle NED-434 A7 on enclosed inquiry slip ▲

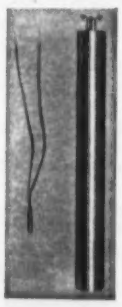
ON THE SPOT HEAT
to your exacting requirements!

TRENT STRIP HEATERS

for Ovens, Dryers, Kettles, Process Equipment

- Flat Metallic Tube Casing
- Ceramic Block Terminal Blocks
- No Grooves—No Heat Distortion
- Sealed End Construction

Available in a complete range of types and sizes, wattage requirements, and voltage conditions—for maximum safe surface temperatures of 750°F. and 1000°F!



TRENT CARTRIDGE HEATERS

for Dies, Molds, Platens, Sealers, Defrosting

- Brass or Steel Sheath Construction
- Silver Soldered End Opposite Terminals
- Moisture and Wax Resistant
- Nickel Chromium Heater Coil Sealed in Ceramic Insulation
- Brass Angle, Pigtail, Rod, or Stud Type Terminals

Standard sizes from ⅜" to 1⅝" diameter, and 1½" to 22" in length, are supplied in a range of wattage requirements for 110 and 220 volt operation.

Discuss your spot heating requirements with a Trent representative.

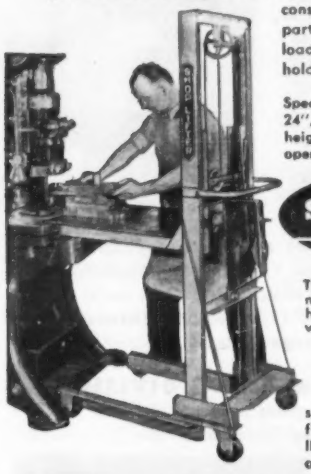
Trent Representatives in Principal Cities Coast to Coast

TRENT INC.
Electrically Heated Industrial Equipment
242 LEVERINGTON AVE., PHILA. 27, PA.

▲ For more details circle NED-435 A7 on enclosed inquiry slip ▲

500 lb. Lifter-
NOW $210 f. o. b. Chicago

Pays for itself over and over again in time saved and by avoiding lifting injuries in moving dies, machine parts and stacking. Can be used as adjustable height work table. Rugged, simple construction, with few moving parts, has high safety overload factor. Automatic clutch holds load at any height.



Specifications: platform 24" x 24", lifting height 4' 6". Overall height 6' 0". Width 24". Foot operated floor lock.

SHOPLIFTER

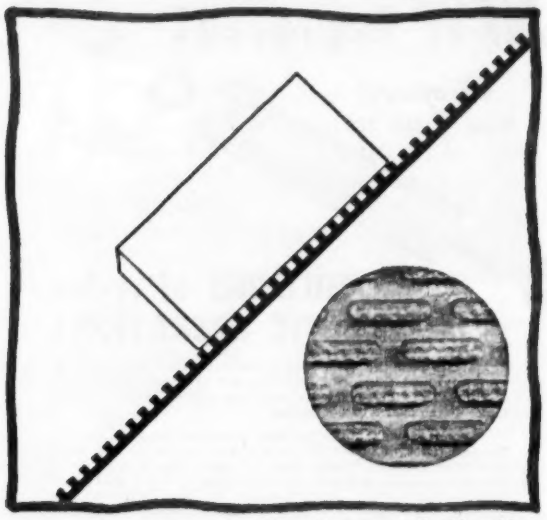
This sturdy, general purpose lifter makes it easy for one man to handle lifting jobs quickly and with complete safety.

Order Today— Free Trial

specify 10 day free trial, with full credit return privilege. 1000 lb. and 2000 lb. Shoplifters also available.

ECONOMY ENGINEERING 4519 W. Lake St. Chicago 24 Illinois

For more details circle NED-436 A7 on enclosed inquiry slip



Conveyor Belting with "Snow Treads"?

Same idea! Deep, flexible rubber cleats on NYB&P's PARA-LIFT conveyor belting grip "slippery", smooth-surfaced items—such as cellophane-wrapped articles, waxed cartons, plastic containers and polished, light metal parts—and carry them up inclines as great as 45 degrees without avalanching! Look for your NYB&P Distributor in your classified phone directory.

NYB&P NEW YORK BELTING & PACKING CO. 1 Market St., Passaic, N. J.

America's Oldest Manufacturer of Industrial Rubber Products

For more details circle NED-437 A7 on enclosed inquiry slip

BULK MATERIAL CONTROL under Pressure or Vacuum

New Roto-Bin-Dicator mounts outside bin, at any angle, for bin level signaling or machinery control. Material loads on paddle actuate Micro switch in motor housing. Flexible paddle shaft permits use with large or lumpy materials. **Explosion-Proof U. L. Listed Units Now Available.**

ROTO-BIN-DICATOR

BIN-FLO AERATOR

Low pressure air diffuser assures steady flow of fine, dry materials that tend to pack in storage.

BIN-DICATOR

The original diaphragm-type bin level indicator for all ordinary applications.

Complete Illustrated Literature FREE

THE BIN-DICATOR CO. 13946-A Kercheval • Detroit 15, Mich. Phone: VAlley 2-6952

WE SELL DIRECT • PHONE ORDERS COLLECT

For more details circle NED-438 A7 on enclosed inquiry slip

INDUSTRIAL TRAILER has 5-ton capacity

Fifth - wheel steer model 42 B general-purpose trailer affords 5-ton capacity and standard platform size of 48 x 96 in. Other sizes can be obtained. Trailer can be furnished with steel plate deck as shown, safety floor plate, hardwood deck, or with open frame construction. Wheels equipped with Timken tapered thrust bearings are mounted on stub axles. Fifth wheel has large diameter ball bearing race and Timken tapered bearings at pivot pin. Modifications such as four-wheel steering, special decks, superstructures and greater capacity are available. Made by **Jakes Foundry Co.**, Dept. SD-NED, 2800 Charlotte Ave., Nashville 9, Tenn.

For more details circle NED-439 A7 on enclosed inquiry slip

COIL GRAB handles 1000-5000-lb coils

Model 369 coil grab is designed to handle narrow width coils in conjunction with crane or hoist. It grips the coil on the inside and outside diameters, depending only on clamping action. Initial gripping is obtained by screw adjustment of the movable jaw, and final gripping is accomplished by means of cam action when hoist hook is raised. Coils can be transported with fork lift trucks using the coil grab. Standard models are made in 1000, 2000, 3000, 4000 and 5000-lb capacities. Made by **H. L. Bushman Co.**, Dept. L, 100 W. Central Ave., Roselle, Ill.

For more details circle NED-440 A7 on enclosed inquiry slip

BOOM PENDANT THIMBLES dampen wire rope vibrations

Both open and closed types are offered in this boom pendant thimble made of hard carbon steel castings. Thimble reportedly will increase fatigue resistance

of wire rope and dampen vibrations. Range of sizes in both types is interchangeable with standard open and closed sockets. Made for wire rope diameters of ¾, ⅞ and 1 in. by **Newco Mfg. Co.**, Dept. 119, Box 5939, Kansas City 11, Mo.

For more details circle NED-441 A7 on enclosed inquiry slip

NEW RELIANCE BRAKEMOTOR

These new motors are designed for tough operating conditions. Corrosion-proof cast-iron housings and specially sealed joints make this motor impregnable to foreign material.

Simple brake design has only six parts and requires no control wiring or auxiliary electrical equipment. Requires a minimum of space, and wearing parts are easily accessible. For further information write for Bulletin B-2503.

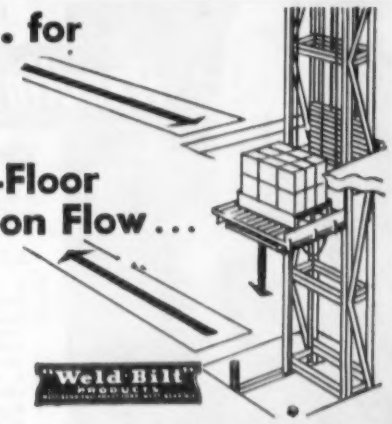
B-1590-A

RELIANCE ELECTRIC AND ENGINEERING CO.

Dept. 241A, Cleveland 10, Ohio • Canadian Division: Welland, Ont. Sales Offices and Distributors in Principal Cities

For more details circle NED-442 A7 on enclosed inquiry slip

NEW . . . for



Floor-to-Floor Production Flow . . .

Weld-Bilt

"Weld-Bilt" PRODUCTS

VERTICAL TRANSPORTATION

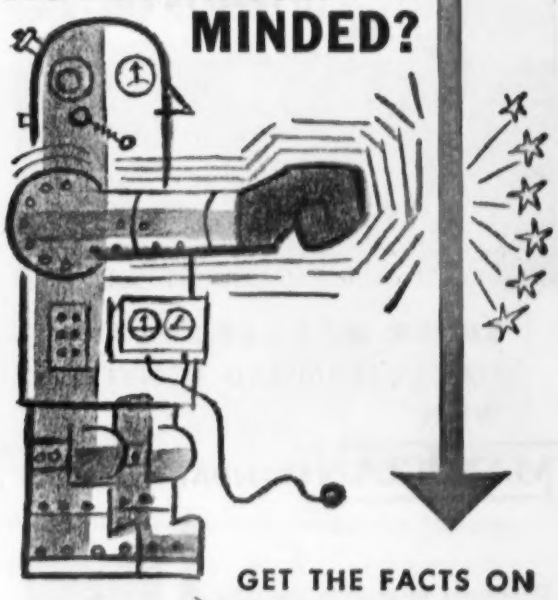
Here's conveyor automation between-floors—one, two, or three floor levels—with minimum remodelling. Automatic loading, unloading, lifting or lowering to match conveyor speed. Controls, brakes, switches, platforms—all engineered to your needs.

Write for profitable suggestions on your own floor-to-floor conveyorizing with Weld-Bilt "Vertical Transportation"

WEST BEND EQUIPMENT CORPORATION
MATERIALS HANDLING ENGINEERS
311 WATER STREET • WEST BEND, WISCONSIN

For more details circle NED-443 A7 on enclosed inquiry slip

AUTOMATION MINDED?



GET THE FACTS ON

ELECTRO PUNCH Jr.

- A compact electric impact hammer for fixed single-purpose applications.
- Can be mounted in any position.
- Accurately controlled impacts to 3500 lbs.
- Lightning fast strokes up to 120 a minute.
- Major manufacturers use it to STAKE — RIVET — MARK — SHEAR — CRIMP — PUNCH — CUT-OFF.

Write for free folder showing complete line of Black & Webster solenoid-operated production tools.

BLACK & WEBSTER, INC.

Dept. 1, 445 Watertown Street, Newton 58, Mass.

SOLENOID-OPERATED PRODUCTION TOOLS

For more details circle NED-444 A7 on enclosed inquiry slip

IF YOU'RE

Handling Coil

CHECK THESE C-F LIFTER ADVANTAGES

- 1 Lifter handles wide range of coil sizes
- Requires minimum of only 10" to 12" between piles — saves storage room
- 1 man operation — eliminates hookers
- Positive grip on coil—no damage to material

• C-F Coil Lifters are saving time and labor in many plants and warehouses because they can pick up, carry and set down a coil of steel faster and safer than any other method. Infinite jaw openings permit handling a very wide range of coil widths . . . carrying legs open fast, stay open until operator closes them on coil. Narrow legs require minimum space between piles—a space saving advantage. Made in motorized models for crane cab or pendant operation as well as manual types with chain wheel, in capacities from 3 tons up. Powered Rotating Heads available. Opening ranges to suit your requirements.

Write for illustrated Bulletin.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

For more details circle NED-445 A7 on enclosed inquiry slip

SUPER MARKET SHOPPING FOR CUSTOMIZED CONVEYORS WITH MAY-FRAN STANDARDIZATION

Developed to provide the ultimate of versatility, the May-Fran program of STANDARDIZATION permits users to create and construct their own conveyors to meet individual needs.

It literally provides a type of "super market" shopping for the straight, curved, inclined, take-up and discharge end sections required to meet the specifications of YOUR job requirements. Sections can be changed relative to length or width with only a minimum of downtime.

Write today . . . ask for a copy of MF Bulletin No. 200

MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Rd. • Cleveland 12, Ohio

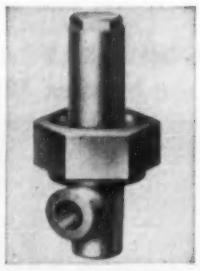
For more details circle NED-446 A7 on enclosed inquiry slip

FLEXIBLE AIR DUCT resists most corrosive fumes

Vinyl coated Fiberglas fabric over a supporting spiral of stainless steel are materials used in type 47-ID flexible air duct to resist most corrosive fumes and chemicals. Fabric is mechanically fastened into the steel spiral of the duct which easily bends 90 and 180 degrees. Normal temperature range is −40 to 170° F, standard and maximum lengths are 10 and 20 ft, and available sizes are 4 to 10 in. ID. Made by **Wiremold Co.**, Dept. AD, Hartford 10, Conn.

For more details circle NED-447 A7 on enclosed inquiry slip

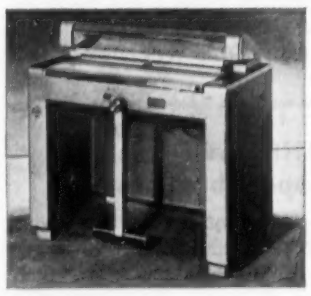
RELIEF VALVES withstand 1500 psi and 250° F



Top works of relief and back pressure valves suited for use with corrosive fluids at pressures to 1500 psi and temperatures to 250° F, are protected by Kel-F, thermoplastic diaphragms. Standard ¼, ½, ¾ and 1-in. sizes offer a wide range of pressure settings, easily made with a screwdriver. Valve bodies are cast steel, type 316 stainless steel, Carpenter No. 20 and Hastelloy C. Slurries up to 15 per cent concentration can be handled. Made by **Milton Roy Co.**, Dept. NED, 1300 E. Mermaid Lane, Philadelphia 18, Pa.

For more details circle NED-448 A7 on enclosed inquiry slip

FOLDER & CREASER for thermoplastic sheet materials



Model 178 Thermatic folder-creaser rapidly forms 90 - degree creases or 180-degree folds up to 30 in. long in cast and extruded thermoplastic sheet from 0.005 to 0.020-in. thick. Different plastic formulations are handled by varying the temperature of the 31-in. blade, or the rapidity of the folding operation. Operating as the folder, 60-100 psi compressed air actuates movable front die section, squeezing the fold to accurate thickness and chilling the material to permanent set. Dual back gages enable two separate folding or creasing operations to be made with one handling of workpiece. Made by **Taber Instrument Corp.**, Section 16, 111 Goundry St., North Tonawanda, N. Y.

For more details circle NED-449 A7 on enclosed inquiry slip

The Metron 3 in 1 HAND TACHOMETER...

The most CONVENIENT *most* ACCURATE *most* READABLE

WAY TO MEASURE SPEEDS OF YOUR MACHINES

3 sliding-scale ranges in 1 instrument!

It's more *readable*—you see only one set of scale numbers at a time. It's more *dependable*—has a simpler operating principle. You switch quickly to any of 3 "sliding scale" ranges. You cannot damage by overspeeding. You get steady readings—electric cable prevents instrument vibration.

For full details write for bulletin 103

Metron INSTRUMENT COMPANY
436 Lincoln St., Denver 3, Colo.
DISTRICT OFFICES • NEW YORK • CHICAGO • CLEVELAND

For more details circle NED-450 A7 on enclosed inquiry slip

New Hydraulic Press sells for $395

New hydraulic Multipress for high speed manual or automatic operation.

• Production jobs requiring controlled ram pressure are simplified and speeded with the new 1-ton Denison hydraulic Multipress®. A fast operating ram giving up to 150 strokes a minute permits efficient operation on many types of work using manual or automatic loading methods. The press is completely self contained and easily portable anywhere in the shop. The press controls are designed to permit completely automated operation with other production equipment. Controls are also interlocked requiring activation of two switches for safety to the operator. Price is only $395.00 F.O.B. Factory. ***Immediate delivery subject to prior sale.***

DENISON ENGINEERING DIVISION
American Brake Shoe Co.
1192 Dublin Road, Columbus 16, Ohio

HYDRAULIC PRESSES
PUMPS • MOTORS • CONTROLS

DENISON HydrOILics

For more details circle NED-451 A7 on enclosed inquiry slip

NEW improved!

Clippard
Model No. MAC 385

MINIATURE PNEUMATIC CYLINDER

...for MILLIONS of cycles of AUTOMATIC OPERATION!

While still the same size overall (2-3/16" x 7/16") the new improved Clippard Miniature Air Cylinder incorporates a number of improvements, assuring you of MILLIONS of trouble-free cycles of operation!

Stroke, for example, has been increased from ⅜" to ½". Internal friction is reduced thru use of a special new self-lubricated synthetic piston ring. Cylinder case is rolled into knurled, grooved cylinder end at bottom so keyed shaft will never loosen or turn. Spring return has been improved and cylinder is cushioned internally to absorb shock. Will operate up to 800 cycles per minute.

For light AUTOMATIC or SEMI-AUTOMATIC work operations, you will find sturdy new Clippard MAC 385 Miniature Air Cylinders ideal, especially when used with our miniature Air Valves, Cam-follower Heads, Manifolds, Fittings and Accessories. Write, NOW, for power and static data, catalog sheet, complete specifications and modest prices!

DEALERS-DISTRIBUTORS: Write For Attractive NEW Sales Proposition

Clippard INSTRUMENT LABORATORY, INC.
7372-N Colerain Road, Cincinnati 24, Ohio
Manufacturers of R.F. Coils, Electronic Equipment, Miniature Pneumatic Devices

For more details circle NED-452 A7 on enclosed inquiry slip

How SERVIS RECORDERS CUT MATERIALS HANDLING COST

Servis Recorders help you cut needless expense in materials handling by charting actual motor running time so that both too much and too little maintenance can be prevented.

Servis Recorder Charts will tell you exactly how busy and idle your equipment is. Also number of lifts per day are recorded.

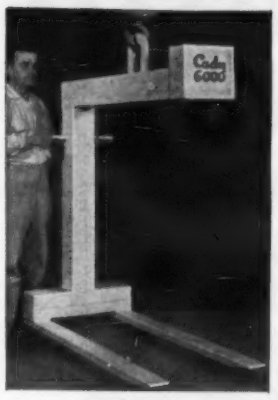
By using small, compact, fool-proof Servis Recorders, you can improve your scheduling and provide needed materials at the right spot and at the right time.

For full details on Servis Recorders send for this booklet, "Control Over Lift Trucks."

THE SERVICE RECORDER CO.
1375A Euclid Avenue • Cleveland 15, Ohio

For more details circle NED-453 A7 on enclosed inquiry slip

NEW CADY PALLET LIFTERS
multiply uses and economies of your cranes and hoists at low cost



You can now use your cranes and hoists to load, unload, transport and stack palletized materials as well as boxes, drums, coils and other unit loads in areas not accessible to fork trucks. America's foremost industries are saving hours and dollars in "working" gondolas, docks, ships, factories, warehouses and yards. CADY Pallet Lifters have hundreds of uses in moving pallet loads between floor levels and across areas where truck aisles do not exist.

Cost Less Than 1/10th the Price of Fork Trucks

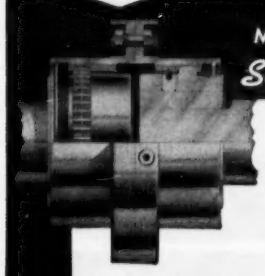
Counterbalanced to hang level, loaded or empty. High strength, lightweight, welded alloy steel construction. Finished in safety yellow. Repeat orders from the Who's Who of American industry are proof of satisfaction. Standard models, with or without adjustable forks, up to 6,000 lbs. capacity. Tilt-back, ram and other custom models and capacities. Write for latest Specification Sheet No. 1056, name of local distributor and free trial offer: Cady Metal Fabricating Co., 84 Schenck St., N. Tonawanda, N. Y. *(Advertisement)*

▲ For more details circle **NED-454 A7** on enclosed inquiry slip ▲

HOW CAN YOU AFFORD ORDINARY GEAR TYPE COUPLINGS WHEN

AJAX New 3-Degree DIHEDRALS

HANDLE 3-DEGREE MISALIGNMENT at the *Same Low Price?*



Cut-away view showing arrangement of specially designed gears and location of lubrication seals.

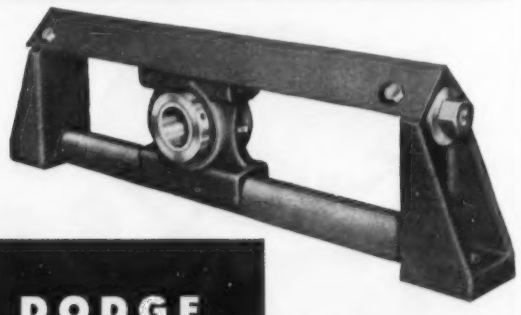
With ability to handle angular and offset misalignment . . . with minimum backlash . . . with perfected lubricant sealing . . . with long life,—AJAX Dihedral Couplings have made ordinary couplings obsolete.

And now AJAX adds this new 3-D Self-aligning Dihedral Coupling at prices competitive with ordinary gear type couplings.

AJAX 3-D Dihedral Couplings will handle misalignment up to three degrees between the driving and driven shafts of direct connected machines. AJAX patented Dihedral tooth design makes it possible to have close tooth clearance with no dependence on backlash for handling misalignment. AJAX 3-D couplings are designed for NEMA motor shafts using standard keys.

AJAX FLEXIBLE COUPLING CO. INC.
WESTFIELD, N.Y.

▲ For more details circle **NED-455 A7** on enclosed inquiry slip ▲



DODGE TAKE-UPS

— THEY'RE MODERN
— 7 TYPES
— ASK ABOUT THEM!

MODERN, rugged, *dependable!* A great range of types and sizes—for everything from light loads to heavy loads. Babbitted, Bronzoil, SC Ball Bearing, Dodge-Timken Type E Roller Bearing, Angle Frame, Protected Screw. Shaft sizes from 1/2" to 4". Travel from 4" to 48". Stocked by Dodge Distributors. Write us for details.

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Indiana

DODGE
of Mishawaka, Ind.

FIRST IN POWER TRANSMISSION MACHINERY

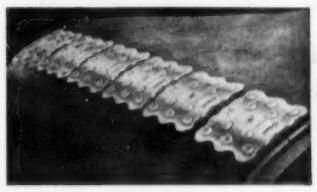
▲ For more details circle **NED-456 A7** on enclosed inquiry slip ▲

PORTABLE COIL CRADLE
handles 1200 to 16,000-lb coils

Improved Koil Kradle for supplying coil stock to presses and other equipment is equipped with casters for moving it from machine to machine. Available in capacities from 1200 to 16,000 lb, it handles coils up to 48 in. wide by 60 in. diameter. Front wheels swivel for steering. As tongue is lowered, the bed is lifted by a cam to clear the floor by ¼-in. Unit illustrated is equipped with a pinch roll unit. Made by **Benchmaster Mfg. Co.,** Dept. NED-1, 1835 W. Rosecrans Ave., Gardena, Calif.

▲ For more details circle **NED-457 A7** on enclosed inquiry slip ▲

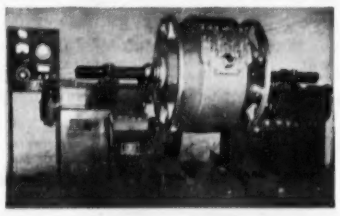
CONVEYOR BELT FASTENERS
installed with self-clinching rivets



A hammer is the only tool required to join conveyor belt ends or repair belts when using these Crescent belt fasteners. Plates have countersunk holes through which self-piercing and self-clinching countersunk-head rivets are driven flush with the surface of the plate. Plates are offered in 3 and 4-in. widths for use over 14-in. diameter pulleys or larger, while rivets are made for belt thicknesses of ⅜, 7/16, ½ and ⅝-in. Made by **Crescent Belt Fastener Co.,** Dept. G, 480 Lexington Ave., New York 17, N. Y.

▲ For more details circle **NED-458 A7** on enclosed inquiry slip ▲

INDIRECT ARC FURNACES
capacities from 350 to 4000 lb



New arc control system and motor driven electrodes are featured in series P pedestal mounted indirect arc furnaces. Magnetic amplifier-type arc control allows variation in speed of control motor so that its speed is directly proportioned to unbalance. Electrodes are automatically controlled and can be moved by manual pushbutton controls while recharging, or for positioning during automatic operation. Furnaces are made in capacities from 350 to 4000 lb and ratings from 125 to 600 kw by **Kuhlman Electric Co.,** Detroit Electric Furnace Div., Bay City, Mich.

▲ For more details circle **NED-459 A7** on enclosed inquiry slip ▲

FOR MARKING— NUMBERING— CODING—

Use the Nissen MARKER

The Nissen Marker is a handy, easy-to-use, ball-point writing tube containing a special fast drying ink for marking all types of metal, wood, plastic, glass, etc. The ink withstands heat and weathering under adverse conditions and will not readily chip, fade or rub off.

Several size ball points are available for making thin or heavy lines and for smooth or rough surfaces.

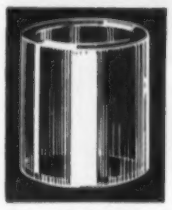
7 STANDARD COLORS

JOHN P. NISSEN, JR., CO.
Manufacturers
GLENSIDE, PA.

BALLPOINT
Makes Easy Application

▲ For more details circle **NED-460 A7** on enclosed inquiry slip ▲

SWIFT carries a complete stock of



GAUGE GLASS and CYLINDERS

Need Gauge Glass or Cylinders in a hurry? Then write, wire or phone Swift for immediate delivery.

We have a complete stock of Pyrex Tubular Gauge Glass and Cylinders on hand for chemical, pharmaceutical or industrial applications. Supplied in any length or finish from 2 mm. O.D. to 7" O.D.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

▲ For more details circle **NED-461 A7** on enclosed inquiry slip ▲

'paid for itself in 6 months'

a leading manufacturer solves storage problem quickly, easily, economically with NU-RAIL *Slip-on Fittings*

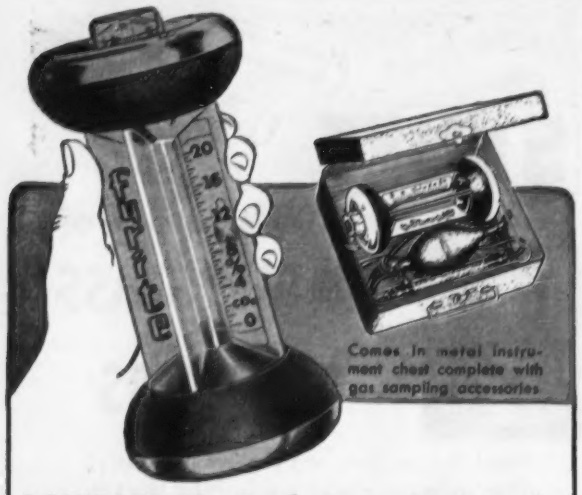
- adds ⅓ more storage space
- reduces carton spoilage
- eliminates costly re-cartoning
- speeds handling time

Pallet Pipe Racks, constructed with NU-RAIL Fittings, effect substantial savings both on low initial cost and installation expense. Plant maintenance men can assemble. Simple principles of offset design reduce pipe-cutting, eliminate welding and threading, permit continuous pipe-lengths to *cross through the fitting.* NU-RAIL just slips on, locks in place with vibration-proof screws. Saves up to 80% labor cost for erection.

Added advantage: as storage requirements change, NU-RAIL racks are easily readjusted. All fittings are re-usable. With longer pipe sections, more pipe is salvageable. Learn how YOU too can save space, speed warehousing operation, cut labor costs. Write for full details — TODAY!

THE HOLLAENDER MANUFACTURING CO.
3839 SPRING GROVE AVE. • CINCINNATI 23, OHIO

▲ For more details circle **NED-462 A7** on enclosed inquiry slip ▲



ACCURATE CO_2 Analysis in 40 Seconds!

Other outstanding features of the FYRITE CO_2 Indicator are its durable, fool-proof construction and unmatched convenience of operation. It requires no setting-up, has no valves or leveling bottle to manipulate.

The FYRITE measures CO_2 directly by the fundamental method of chemical absorption. Consequently, the reading is independent of voltage, humidity, temperature, or atmospheric pressure conditions.

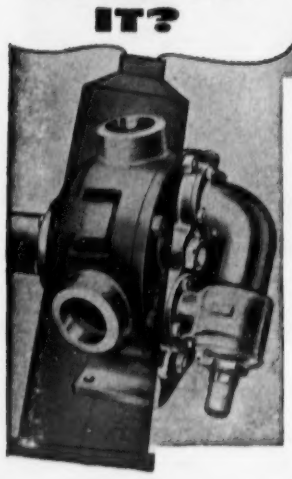
Comes complete with chemical charge good for at least 300 readings. Replacing chemical merely requires removing four screws that hold top assembly in place.

Write for Bulletin 805

BACHARACH Industrial Instrument Company
7301 Penn Avenue • Pittsburgh 8, Pa.

▲ For more details circle NED-463 A7 on enclosed inquiry slip ▲

HOW DO YOU HANDLE IT? PUMP IT WITH A VIKING



Here's the answer to your problem of moving semi-solid materials of types usually dispensed in squeeze tubes. With Vikings you can pump such materials as tooth paste, shaving cream, petroleum jelly and many others, in a smooth-even flow. Hundreds of plants are doing it.

Viking's simple, rugged "gear within a gear" principle makes it adaptable to most pumping needs. There are 750 catalogued models and thousands of specially built pumps and units. If you have a pumping problem, call on Viking Pumps for assistance.

Ask for bulletin 57Sg.

VIKING PUMP COMPANY

Cedar Falls, Iowa, U.S.A. In Canada, it's "ROTO-KING" pumps
See our catalog in Sweets

▲ For more details circle NED-464 A7 on enclosed inquiry slip ▲

Use Parker *Unipar* for sealing threaded joints

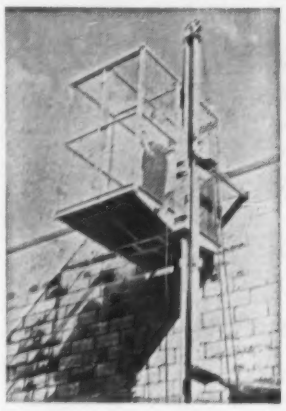
- Universal thread and gasket compound.
- Easy to apply. Lubricates and seals. Easy to disconnect.
- Seals water, steam, gas, oil, gasoline, etc.
- Extreme pressures; temperature range −70° to +300°F.
- Once you try it, you'll always use it.
- Call us for immediate delivery of Parker *Unipar*.

Parker
Hydraulic and fluid system components

Order from your Parker Distributor—or Rubber Products Division, Section 520-Q, The Parker Appliance Co., 17325 Euclid Ave., Cleveland 12, Ohio

▲ For more details circle NED-465 A7 on enclosed inquiry slip ▲

PERSONNEL ELEVATOR
2000-lb capacity demountable type



Operating on a vertical monorail, this 2000-lb capacity industrial personnel elevator takes the place of a permanent installation. Easily set up and operated, unit can be quickly disassembled and moved to another location. It can be set up in a pit or shaft carrying men or materials to and from below ground level. With the addition of a stabilizer bracket every 15 ft, the elevator is practical for almost every industrial use and height. A safety locking device stops and holds the car in case of cable stretch or break. Other safety features are incorporated. Made by **Hawkeye Products Corp.**, 248 Lincoln Ave., Syracuse 4, N. Y.

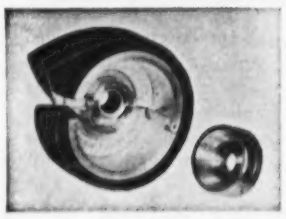
▲ For more details circle NED-466 A7 on enclosed inquiry slip ▲

HAND TRUCKS
three heavy duty models

Built of 1-in. tubular steel and welded to withstand severe treatment, line of three heavy duty hand trucks is equipped with stair climbers. All have 10 x 2.50-in. semipneumatic roller bearing wheels, Zerk grease fittings, and reinforced 12 x 14-in. nose plates. Offered are twin handle style for best load control (right), push-pull style for safety and mobility (left), and down-frame twin style for best control of high, narrow loads (center). All handle loads up to 600 lb. Made by **Milwaukee Truck Co.**, Dept. NED, 250 N. Twelfth St., Milwaukee 3, Wis.

▲ For more details circle NED-467 A7 on enclosed inquiry slip ▲

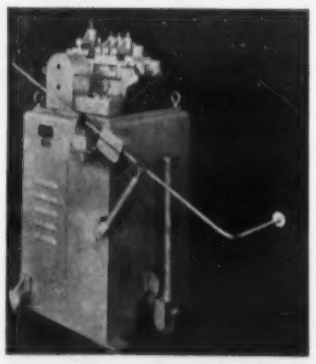
DRUM SANDER
4-in. size for speeds to 6000 rpm



Grinding, buffing and polishing operations can be performed with portable high speed grinders using this 4-in. diameter Cone-Loc drum sander. Balanced tool can be operated at speeds up to 6000 rpm. Its split drum accommodates easily replaced strips of coated abrasives torn off standard rolls. The 1-lb tool is 1½ in. wide and is available with ½, ⅝ and ¾-in. arbor holes. Cushion of 50-durometer neoprene rubber withstands oil, grease or other petroleum products. Available from **American Diamond Saw Sales Co.**, Room 215, 120 N. W. Ninth Ave., Portland 9, Oreg.

▲ For more details circle NED-468 A7 on enclosed inquiry slip ▲

POWER STRAIGHTENER
for up to 4½ in. wide materials



Materials up to 4½ in. wide and 1/8-in. thick can be handled by model PDS - 4½ straightener which has a pair of power driven take - in rolls and six straightening rolls. Of the latter, upper three are individually adjustable, while lower three are power driven. Hinged construction of straightener assembly allows for opening to thread end of new coil. Unit is furnished with forward, stop and reverse controls; indicators on straightening rolls; casters for mobility; Micro Switch loop control arrangement; and ½-hp variable speed drive motor. Made by **U. S. Tool Co.**, Dept. N, Ampere (East Orange), N. J.

▲ For more details circle NED-469 A7 on enclosed inquiry slip ▲

CONTINUOUS MICRONIC CLARITY

for almost any liquid
any flow rate
any pressure

Industrial fluids of all kinds — oils — liquid chemicals — water — liquid fuels — lube oils — lacquer, paints, thinners — compressed air — CO_2 and other gases — commercial fluids: you can keep them clear, in flow rates up to 1,600 gpm, at pressures up to 4,000 psi, at minimum pressure drop.

Fulflo Filters
provide any d
clarity for li
Genuine Honey
are available
orlon, dacron,
fibres; contain
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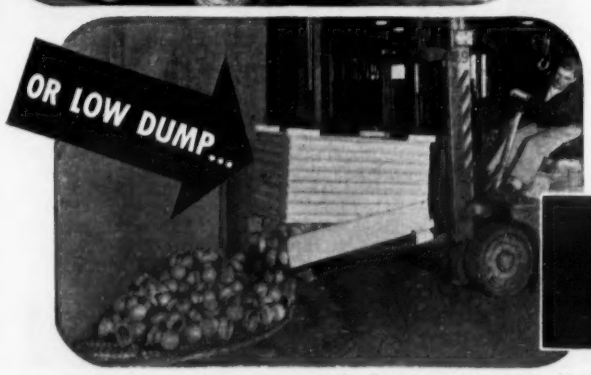
lined steel or n
Special models
to order.

Plan

▲ For more details circle NED-470 A7 on



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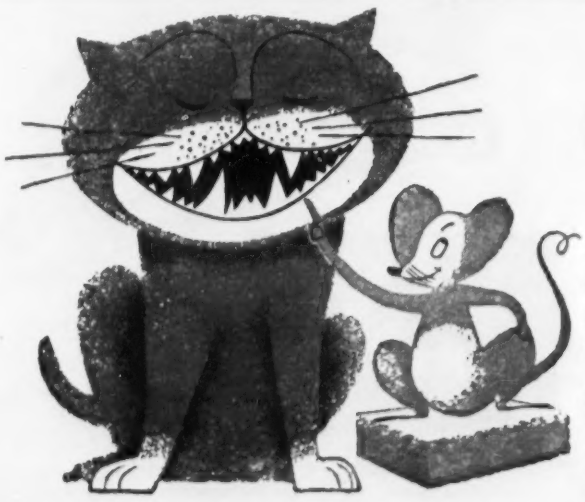

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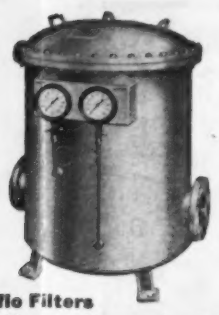
EVERY TYPE—EVER

SKF
Ball Bearings
Cylindrical Roller Bea
Spherical Roller Bear
Tapered Roller Bearin
*Reg. U. S. Pat. Off. Tyson Bear

SKF INDUSTRIES, INC., PHILADELPH

▲ For more details circle NED-472 A7 on



Fulflo Filters
provide any degree of micronic clarity for liquids and gases. Genuine Honeycomb Filter Tubes are available in cotton, nylon, orlon, dacron, dynel or glass fibres; containers are made of iron, steel, stainless steel, rubber-lined steel or nickel-plated brass. Special models can be engineered to order.

CFC Oil Filters
(including former Honan-Crane models) effect substantial savings by protecting moving parts and extending oil life. Multi-Cartridge Filter gives you a choice of six types of interchangeable cartridges for selective filtration of cutting, quenching and rolling-mill oils, transformer and insulating oils, turbine and vacuum pump oils, fuel and lube oils.

For engineering help — call on Commercial.
Write to Department NE for technical literature.

COMMERCIAL FILTERS CORPORATION
MELROSE 76, MASSACHUSETTS

Plants in Melrose, Massachusetts and Lebanon, Indiana

NED-470 A7 on enclosed inquiry slip

Work-O-Matic* Boxes do the job *FASTER!*

TALK about versatility in material handling . . . the Work-O-Matic is one of the most efficient and versatile aids you've seen for cutting time and costs!

Used with a hydraulic fork lift truck, a Work-O-Matic box allows automatic, mechanical removal or deposit of parts at any height—*high or low!* And the discharge point remains constant at the selected fork lift height.

You'll also be interested in how these multi-duty boxes, with Union Metal positioning stands, are cutting production costs up to 50% per man per machine by speeding the flow of material in process at *proper work level!* For *all* the facts, write to The Union Metal Manufacturing Company, Canton 5, Ohio.

*Patent No. 2,445,038. Other patents pending.

UNION METAL
Material Handling Equipment

NED-471 A7 on enclosed inquiry slip

He's got them all

You'll find the bearings you need
And obtain them with speed
From the place with a complete line
Your distributor with the SKF® sign.

Ball and roller bearings of every type
Pillow block housings that fit just right
Other accessories are available too
At the SKF distributor who's near you.

7748

Y TYPE—EVERY USE
Bearings
drical Roller Bearings
rical Roller Bearings
red Roller Bearings ("Tyson")
. Pat. Off. Tyson Bearing Corporation
., PHILADELPHIA 32, PA.

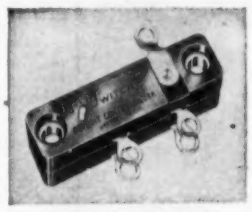
NED-472 A7 on enclosed inquiry slip

SNAP-ON LABELS
plastic type are easily attached

Applications for Kwik Lok snap-on labels include closing plastic bags containing small parts, coding of various products and identifying valves, fire extinguishers, electrical appliances and other equipment. They are made of durable Styron plastic, have flexible jaws that readily open for attachment or removal and can be reused. Two styles are available: 1⅜ x ⅞-in. size with printed plastic Lok; and 1 15/16 x 2¼-in. size with printed cards attached. Color, opening size, label size, legend and code can be specified for the applications. Made by **Kwik Lok Corp.**, P. O. Box 2098L, Yakima, Wash.

For more details circle NED-473 A7 on enclosed inquiry slip

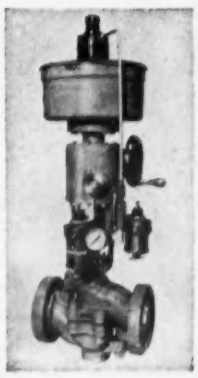
MULTIPOLE SWITCHES
rated 10 or 15 amp, 125 or 250 v ac



System of precision stacking of Class 1 TyniSwitches makes it possible to obtain a single actuator switch capable of switching two or more independent circuits. Switch action can be double-throw, single-throw normally-open or single-throw normally-closed. Maximum pin movement from the first contact actuation of all contacts is 0.015-in. Standard double-pole units are available with any Class 1 actuator. Type B is UL-listed at 15 amp 125 or 250 v ac, ½-hp, while type D units are rated 10 amp 125 or 250 v ac. Made by **Detroit Controls Corp.**, TyniSwitch Dept., 800 Union Ave., Bridgeport, Conn.

For more details circle NED-474 A7 on enclosed inquiry slip

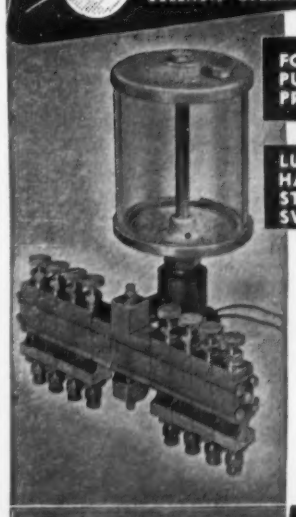
HANDWHEEL OPERATOR
for pneumatic power actuators



Standard line of cylinder Conomotor pneumatically positioned power actuators for control of various types of valves, motor driven speed changers, pumps, flow regulators, rheostats, etc., can be equipped with the Cono-Clutch handwheel operator. The integrally mounted accessory affords immediate manual control in the event of air failure. Operator is thrown in and out of gear at any position of stem travel by a knob. Made by **Conoflow Corp.**, 2101 Arch St., Philadelphia 3, Pa.

For more details circle NED-475 A7 on enclosed inquiry slip

Multiple and Single
AUTOMATIC LUBRICATION
SOLENOID OPERATED



FOR MACHINE TOOLS, PUNCH PRESSES, PRINTING PRESSES, CONVEYORS, ETC.

LUBRICATION OF UP TO 24 HARD-TO-REACH BEARINGS STARTS WITH MOTOR SWITCH

Solenoid is connected across line of driving motor . . . and lubrication starts when motor switch is turned on. Single reservoir replaces many individual oilers. Smooth, easy hair-line adjustments on each feed valve through use of friction screw.

FOR ANY LUBRICATION PROBLEM . . . ask for our engineering suggestions

OIL-RITE ELECTRO OILER

OIL-RITE CORPORATION
2364 Waldo Blvd.
MANITOWOC, WIS.

For more details circle NED-476 A7 on enclosed inquiry slip

Verson Model 1062 Press Brake, $2,630.00*, *available from stock*

• It doesn't take weeks and months to have this press brake delivered. Standard Verson Model 1062 Press Brakes are available from stock. Just pick up your phone and order.

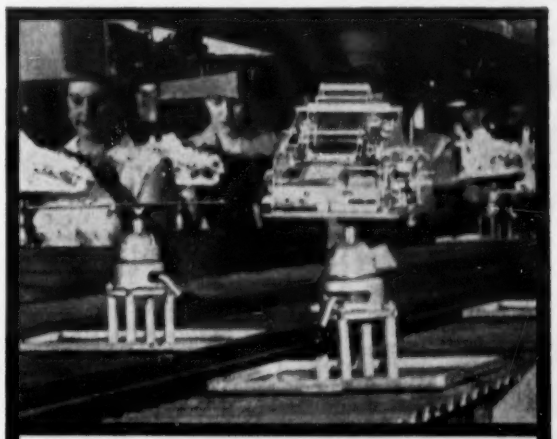
Famous Verson quality and design are built into this press brake and its smaller companion, the 16-48. They provide an economical answer to a wide variety of jobs in all shops.

Model 1062, 16 ga. by 78" capacity, is priced at $2,630.00*; Model 16-48, 16 ga. by 48" capacity, is $1,600.00*. Order yours today. *Both are available from stock!*

*Prices, F.O.B. Chicago, less dies; subject to change without notice.

Verson
VERSON ALLSTEEL PRESS CO.
9329 S. Kenwood Ave., Chicago 19, Ill. 8300 S. Central Expressway, Dallas, Texas

For more details circle NED-477 A7 on enclosed inquiry slip



NO HOLDS BARRED AT BURROUGHS

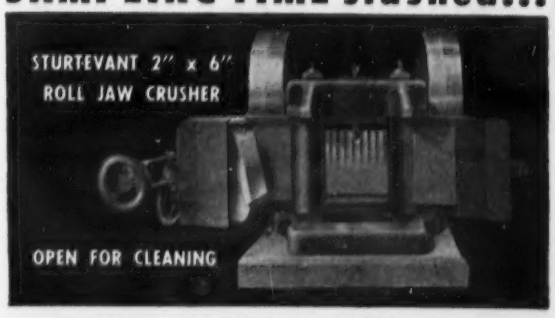
PowRarm work positioners are shown here at the Burroughs Corp., Detroit. PowRarm holds set-ups at any desired angle, freeing both hands. They never become obsolete, no matter how often you re-tool. Before investing in special fixtures again, try PowRarm.

ATTACH THIS AD TO YOUR LETTERHEAD FOR FREE DEMONSTRATION OR LITERATURE!

WILTON TOOL MFG. CO., INC.
SCHILLER PARK, ILL.
Sold By Leading Distributors The World Over
NED-1

For more details circle NED-478 A7 on enclosed inquiry slip

SAMPLING TIME slashed...



. . . by Small-Scale Duplication of Full-Scale Production!

12-PAGE BULLETIN PROVES IT!

SEE how exclusive "OPEN-DOOR" design makes cleaning and maintenance quick and easy . . . how rugged construction keeps equipment running round the clock for years.

COMPARE the capacities and performance of Sturtevant Roll Jaw Crusher, Crushing Rolls, Swing Sledge Mills and Sample Grinder with what you are now using.

LEARN why the "blue chips" in industry and education prefer Sturtevant Laboratory Equipment.

WRITE FOR 12-PAGE BULLETIN on Sturtevant Laboratory Equipment and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment

The "OPEN-DOOR" to *lower* operating costs over *more* years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

For more details circle NED-479 A7 on enclosed inquiry slip

CHECK TORQUE
with your eyes closed!

This new Apco Torque Wrench makes precision tightening so easy you can do it blindfolded. Micrometer-type setting eliminates dial watching . . . releases automatically at desired setting . . . resets itself after release. Ideal for assembly work. Available in a full range of foot pound and inch pound sizes. Meets MIL-H-4034-A specification and its amendments.

MIDGET MICRO-SET WRENCH can be preset in any range of inch ounces, a wide range of inch grams and low range of inch pounds.

WRITE FOR DETAILS!

APCO MOSSBERG COMPANY
161 Lamb Street ATTLEBORO, MASS.

For more details circle NED-480 A7 on enclosed inquiry slip

GET THEM NOW . . . Prototype units and initial production requirements from Guardian Franchised Distributors in U.S. and Canada.

25 AMPERE Interchangeable Coil
POWER RELAY
Built to Meet U/L Specifications
For motor starting, heater loads, other heavy duty jobs, control more power in less space with this new Guardian Power Relay. D.P.D.T. contacts for 25 amps. continuous duty, 230 V., A. C. Easily interchangeable coils rated at 6 V., 24 V., 115 V. or 230 V., A. C.

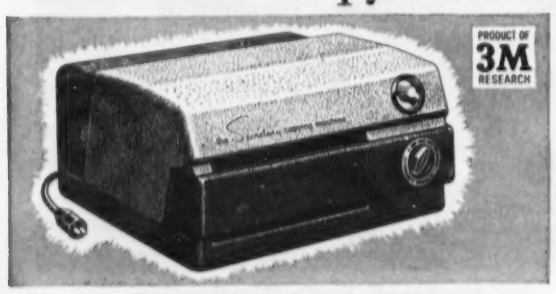
The GUARDIAN POWERLOID
Designed and tested for 230 V., A. C. loads up to 3 H. P. motor and 8400 watt heater. Available in a variety of contact combinations. Low priced!

write— Arrange for production samples. Request name of your nearest Authorized Distributor stocking complete line of Guardian Relays, Solenoids and Steppers.

GUARDIAN ELECTRIC
1626-A W. WALNUT STREET CHICAGO 12, ILLINOIS
"Everything Under Control"

For more details circle NED-481 A7 on enclosed inquiry slip

All-Electric Copy Maker



makes copies in 4 seconds!

Now! Make perfect copies when you need them by electricity alone! All-Electric process *eliminates* chemicals and negatives . . . gives you copies in 4 seconds for just 4½¢ per copy. Send for details now.

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The term THERMO-FAX is a registered trademark of Minnesota Mining & Mfg. Co., St. Paul 6, Minn. General Export: 99 Park Avenue, New York 16, N. Y. In Canada: P. O. Box 757, London, Ont.

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Send details on the time and money-saving THERMO-FAX Copying Machine.

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Company _____
Address _____
City _____ Zone ____ State _____

For more details circle NED-482 A7 on enclosed inquiry slip

GREASE GUN
uses 14½-oz grease cartridge

This high pressure lever grease gun makes use of the handy 14½-oz grease cartridge for fast, easy reloading without waste or mess. Lubricant stays pure and is convenient to handle and store. Gun has filler nipple for 30-second refilling by filler pump, or by conventional suction method. Capacity is 18 oz using bulk lubricant. Spring or force primed, gun develops 10,000 psi maximum pressure. It handles all normal pressure gun lubricants in any weather. Made by **Lincoln Engineering Co.**, 5782 Natural Bridge Ave., St. Louis 20, Mo.

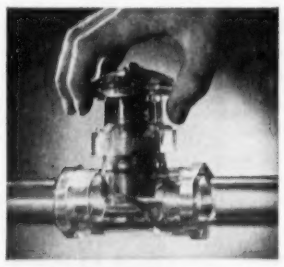
For more details circle NED-483 A7 on enclosed inquiry slip

MILLIVOLTMETER
checks safety thermocouples

Pocket-size model 387 millivoltmeter for checking the voltage output of safety thermocouples on gas-fired equipment has 10, 30, 100, 300 and 1000-mv ranges. Lead clips are merely placed across thermocouple terminals to test for correct voltage. Accuracy is 3 per cent of full scale at ambient temperatures of 50 to 120° F. From −55 to 185° F, additional error is less than 2 per cent. Current draw is only 750 ma. A pair of 48-in. leads is included with the instrument. Made by **Simpson Electric Co.**, 5201 W. Kinzie St., Chicago 44, Ill.

For more details circle NED-484 A7 on enclosed inquiry slip

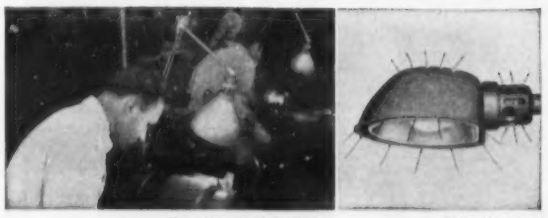
PLASTIC GLOBE VALVE
will control corrosive fluids



All parts in contact with fluids controlled by this globe valve are Tenite butyrate plastic which resists corrosive action of most "problem" chemicals. Rated 100 psi at 73.4° F, this non-rising stem valve has smooth interior surfaces for unrestricted flow. It closes with a positive plastic-to-plastic seal. Valve is available with plain ends for "solvent welding" to plastic pipe or with threaded ends for metal or plastic pipe. Price is $3. Made by **Sloane Mfg. Co.**, Dept. NED, 12270 Montague St., Pacoima, Calif.

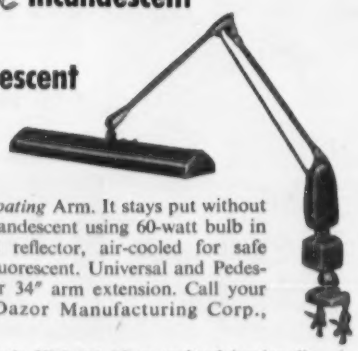
For more details circle NED-485 A7 on enclosed inquiry slip

DAZOR FLOATING LAMPS
Fit the Lighting to Each User and Each Job



Top-Mounted Reflector Side-Mounted

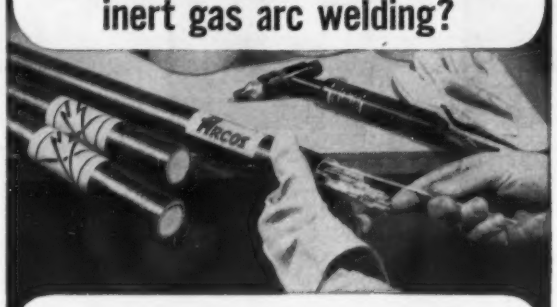
Air-Cooled **Incandescent or Fluorescent**



People . . . jobs . . . lighting needs differ. Let each employee control light location with the Dazor *Floating* Arm. It stays put without locking. Choice of Incandescent using 60-watt bulb in top- or side-mounted reflector, air-cooled for safe handling; or 2-tube Fluorescent. Universal and Pedestal models with 24" or 34" arm extension. Call your Dazor distributor. Dazor Manufacturing Corp., St. Louis 10, Mo.

For more details circle NED-486 A7 on enclosed inquiry slip

Are you doing any manual inert gas arc welding?



• If you are, ARCOS Straightened and Cut Bare Welding Rods for welding stainless, aluminum, and copper nickel alloys will give you sound weld metal . . . easily deposited. The key to this dependable performance is the rigid Arcos quality control program designed to assure you sound, uniform weld metal.

SEND FOR THE ARCOS FILLER METAL CHART
Get this FREE fact-filled guide—tells the proper rod or electrode to use for every job . . . for every welding method.

ARCOS CORPORATION
1500 South 50th Street • Philadelphia 43, Pa.

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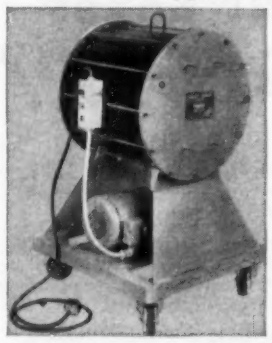
NOW—NEW MODELS OF
UDYLITE-DETROIT FILTERS
FEATURING



SELF PRIMING • INTEGRAL BACK WASHING • *Construction* STEEL PLASTISOL COATED or STAINLESS STEEL • PORTABLE • COMPACT • LOW COST

PRICES:

MODEL 4-350	MODEL 4-350	MODEL 6-1000
Capacity 350 gallons per hour Steel Plastisol Coated	Capacity 350 gallons per hour Stainless Steel	Capacity 1000 gallons per hour Stainless Steel or Plastisol Covered Steel
$450	$500	$1175

Prices F.O.B. Detroit, Mich.
Write for literature today.

THE Udylite CORPORATION DETROIT 11, MICHIGAN — WORLD'S LARGEST PLATING SUPPLIER

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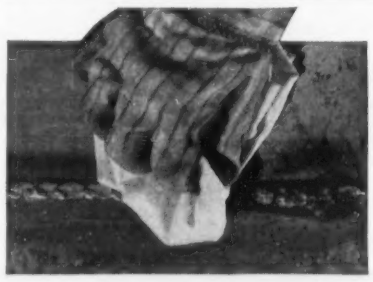

cut weld cleaning time by 85%

Throw away your cold chisel and whisk off weld spatter with a dry rag! Protect-O-Metal spatter-proofing compounds make weld cleaning a breeze. Improve your welds at the same time—P-O-M compounds quiet the arc, improve fusion and electrode operation, prevent oxidation and annealing scale, cause no porosity. No smoke, odors, or fumes.

P-O-M No. 2. Non-inflammable, non-toxic, water-soluble paste. Inorganic. Thin before applying and start welding at once. $3.30 per gallon, f.o.b. Dayton.

P-O-M No. 8. Rust- and corrosion-resistant resin base compound. Comes ready to use. Safe for all metals. Good paint primer; permits outdoor storage of subassemblies. $3.35 per gallon, f.o.b. Dayton.

MONEY-BACK TRIAL OFFER
Order a trial gallon of each today for testing in your shop. We'll cancel the bill if you're not satisfied.

PROTECT-O-METAL
G. W. SMITH & SONS, INC. 5406 KEMP ROAD, DAYTON, O.

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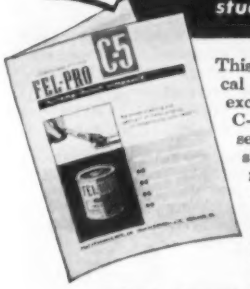
FREE!

new bulletin tells how C-5 solves "HIGH-TEMP" THREAD PROBLEMS

...how to cut maintenance costs by positively preventing SEIZING AND GALLING of studs up to 1800°F.



This free bulletin brings you the technical and application data on Fel-Pro's exclusive C-5 formula. Explains why C-5 insures easy separation and disassembly of all threaded assemblies of similar or dissimilar alloys, ferrous or non-ferrous, even after long exposures to temperatures up to 1800° F. Thousands of leading companies now use C-5. Write Felt Products Mfg. Co., 1510 Carroll Avenue, Chicago 7, Illinois.

Use C-5 to protect all threaded surfaces of bolts, plugs and studs, assuring their repeated re-use.

fel-pro C-5 "HIGH-TEMP"

- √ Prevents Stud Breakage
- √ Ends Stainless "Pitting"
- √ Reduces Torque
- √ Speeds Disassembly

1289

ANTI-SEIZE THREAD COMPOUND

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YOU CAN GET 43 STOCK SIZES 1/8" to 3"

HALLOWELL

SOLID STEEL COLLARS from your industrial distributor

All of these precision-machined solid steel collars are size-marked for quick identification, and fitted with the famous self-locking UNBRAKO Socket Set Screw for positive positioning on the shaft. Write for Bulletin 868. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
HALLOWELL POWER TRANSMISSION DIVISION SPS
JENKINTOWN PENNSYLVANIA

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ROBINTRONIC
AUTOMATIC LEVEL INDICATOR FOR BULK MATERIALS HANDLING

Single Unit
One probe and complete self-contained electronic control unit.

Dual Unit
Two independently operating probes and single control unit.

This accurate, easily installed electronic unit actuates an audible or visible signal to warn operators when materials vary from the pre-set level. When equipped with a power relay, it can also control the flow of materials by stopping and starting motors and other equipment.

RoBINtronic requires neither adjustment nor lubrication. It is engineered for heavy industrial service and functions with materials of all densities from rock and coal to grain and sand.

Send for free Bulletin 166, Department R, Hewitt-Robins, Stamford, Connecticut.

HR

HEWITT-ROBINS

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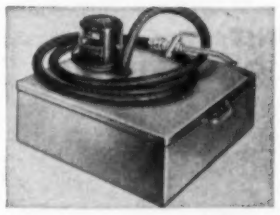
ELECTRIC ROTARY HAMMER
uses shock waves for fast drilling

Difficult overhead or horizontal drilling of 3/16 to 1½ in. diameter holes in concrete or masonry is performed by this high frequency portable electric rotary hammer. Tool creates over 36,000 shock waves a minute to cut clean, true holes up to 40 ft deep. Powered by Thor-built motor which operates on 115 v ac or dc at 1000 rpm, hammer measures 16 in. and delivers 6000 blows per minute. Unit features a high speed water and air swivel. Made by **Demo-Haines Tool Corp.**, Dept. NED, N. Tenth Machine Works, Enid, Okla.

▲ For more details circle NED-493 A7 on enclosed inquiry slip ▲

COOLANT PUMP
delivers 1 to 500 gpm



Self-contained 27-lb model 505-T pump for either permanent or portable coolant supply for small and medium size machine tools can pump 1 to 500 gpm of light oil or soluble compounds. Heavier oils can be pumped at lower deliveries. Six-gallon capacity galvanized steel tank has built-in baffle to remove chips and abrasive particles from stream. Standard unit operates on 115-v, 60-cycle, single phase current, but can be supplied for use on 230 v when required. Each unit has two 8-ft lengths of hose and nozzle. Made by **Brady Pump Corp.**, 1003 E. Eighteenth St., Muncie, Ind.

▲ For more details circle NED-494 A7 on enclosed inquiry slip ▲

POWER ROOF EXHAUSTER
for industrial building ventilation

Offered in capacities from 300 to 6500 cfm, line of power roof exhausters includes both centrifugal and axle types. Of spun aluminum construction, units have cushioned-in-rubber motors to eliminate vibration and noise. They are suited for ventilating both industrial and commercial structures. Made by **Greenheck Fan & Ventilator Corp.**, Dept. 17, Schofield, Wis.

▲ For more details circle NED-495 A7 on enclosed inquiry slip ▲

Compare! No Other Lift Truck can equal the performance of Automatic's New "DOCKER"

- √ **Shortest, most compact truck in its class!**
- √ **Lowest step height—best grade clearance!**
- √ **Top lift and travel speeds, maximum stability!**

Best performing truck on the market for the trucking industry and other close-quarter materials handling, the new "Docker" is 5 ways superior! Overall length (less fork) of 53⅞" • step height of only 7" • lift speed of 65 FPM • grade clearance of 45% • turning radius of 56". *No other* truck of its type offers so much! The "Docker" provides greater stability, too, through 4-wheel suspension and a lower center of gravity. It is available in Mono-Lift or Duo-Lift, 1,000 to 3,000 lbs. capacities.

Automatic
WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS
61 W. 87th St., Dept. A-7, Chicago 20, Illinois

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USE JUST THE AIR YOU NEED

Schrader®

pressure regulators prevent air waste

Schrader pressure regulators save your high pressure air, respond almost instantly to changing loads, give maximum air flow capacity with minimum pressure drop at any setting you make. Air equipment operates more smoothly, efficiently with Schrader regulated air. Corrosion resistant materials in all working parts of Schrader regulators assure long life. Various sizes and flow capacities to fit your needs. Send for free data.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

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You'll find the **right elevator bucket for every job** *in Link-Belt's complete line*

Cast buckets

STYLE AA

LINK-BELT Cast Buckets are built for severe service. Smooth surfaces minimize friction and wear. Reinforced corners give added strength. Accurate balance, uniform construction, and advanced design provide proper filling and clean discharge—fast handling of bulk materials. Available in malleable iron—or Promal for greater wear resistance. For all the facts and specifications write for Book 2465.

STYLE B

STYLE C

Steel buckets

LINK-BELT Steel Elevator Buckets are formed of heavy-gauge steel. All are of welded construction. HS type is designed for high-speed and maximum capacity. Salem buckets are shaped to insure proper filling and free discharge of granular or powdered, free-flowing materials. Continuous buckets in three styles offer clean discharge at low speeds handling crushed stone, ore, coal, or other bulky, gritty materials. Send for Catalog 950.

"HS" HIGH-SPEED

CONTINUOUS Low front

SALEM

LINK-BELT
ELEVATOR BUCKETS

14.008

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office, New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World.

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Easy TO OBTAIN SURFACE TEMPERATURES UP TO 1000°F with PANDUX SURFACE TEMPERATURE THERMOMETERS

PANDUX® Spot-Chek Thermometer

ALL STAINLESS STEEL 50° F. to 1600° F. Easy to read—fast—compact. Accuracy to ± 2% for all surface temperatures such as dies, hot plates, etc. Also for ovens and other enclosed spaces. User can reset, if necessary. Diameter 1¾", weight ⅓ oz.

Model 573-M with magnet clamp, price $4.00.

PANDUX Hi-Heat

Designed for fast, accurate check of all hot surfaces from 50° F. to 750° F., for hot plates, platens, dies, molds, ovens, furnaces — either flat or rounded surfaces. Thermometer is affixed by two Alnico magnets. Highly practical in a wide variety of industrial applications — sells for $6.75.

PANDUX Surface Thermometer

Standard with industry for easy measurement of surface temperature, compact, low cost, accurate ± 2° over entire range. Three ranges: −50° F. to 250° F., 0° F. to 300° F., 70° F. to 370° F. Also in Centigrade. Price $6.75.

ALSO PANDUX PIPE THERMOMETERS

Your order will be filled through your nearest dealer. WRITE DEPT. ND-17

PACIFIC TRANSDUCER CORP.
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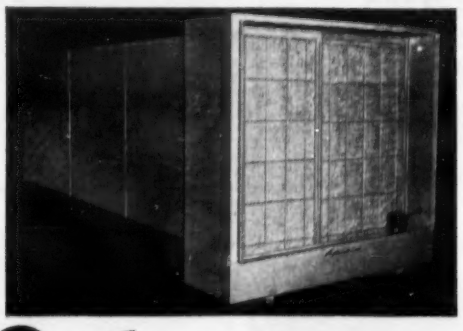
FOR HIGH CAPACITY CONTROLLED HUMIDIFICATION



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AUTOMATIC INDUSTRIAL
HUMIDIFIERS

HIGH CAPACITY—Unit Sizes Up to 10 G.P.H.
POSITIVE CONTROL—No lag or over-run.
UNEQUALLED EFFICIENCY—New vapor principle eliminates water solids problem.
FLEXIBILITY—Can be suspended or pedestal mounted. Gas, steam or hot water heat source.
• ISOTHERMAL OPERATION • MINIMUM MAINTENANCE

For Information, write
RP ... PRODUCTS OF RESEARCH **Research Products Corporation**
Dept. 910, MADISON 10, WIS.

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MOST COMPLETE RUBBER GLOVE LINE IN THE INDUSTRY

NEW CATALOG SHOWS GLOVES FOR 199 COMMON CHEMICALS AND INDUSTRIAL SOLVENTS

Forty-one types and styles —each job-designed for a particular service. Request your free catalog from The Wilson Rubber Company, Industrial Division, Canton 6, Ohio.

A Division of Becton, Dickinson and Company

WR-107-51

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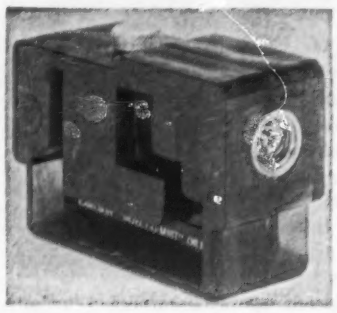
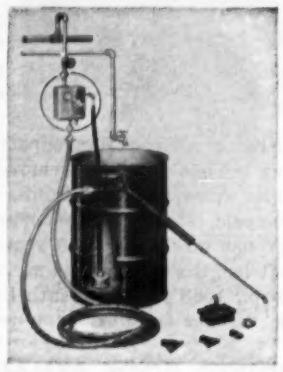
AIR TOOL OILER automatically lubricates tools



Attached directly to portable pneumatic tools such as drills, riveters, grinders, screwdrivers, staplers and wrenches, Inject-O-Mist oiler automatically feeds the correct amount of lubricant mist into the air to keep tool operating efficiently. Microscopic mist is injected into the tool without entering the air line of hose. In addition to lubricating the tool properly, mist prevents corrosion of moving parts. Adjustment is tamperproof. This 5-oz, Tenite plastic case device feeds oil only when tool or cylinder is operating. Price is $14.95. Made by **Carlson Products Inc.**, Dept. N, 5309 N. 24th St., Omaha 10, Nebr.

▲ For more details circle NED-502 A7 on enclosed inquiry slip ▲

STEAM CLEANING UNIT connects to ¾-in. steam outlet



Weighing only 15 lb, model S-809 steam cleaning unit affords single valve control of hot cleaning solution and a visual gage which constantly shows steam pressures. Unit's 8½ x 7-in. control cabinet connects to any ¾-in. valve steam outlet with line pressure of 40 psi or more. Solution is picked up in metered amount by strainer-protected suction head immersed in drum, mixed and heated with live steam and delivered in driving spray through gun nozzle. Delivery is variable from 120 to 190 gph by single lever on cabinet, which also controls temperature of solution and velocity of discharge at nozzle. Made by **Clayton Mfg. Co.**, Dept. N, Box 550, El Monte, Calif.

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PUSH BROACHES can also be used as rotary broaches

Removal of 0.005 to 0.015-in. of stock in hole finishing operations is done quickly by these push broaches when used in punch presses, hydraulic presses, turret lathes and regular lathes. Tools can also be used as rotary broaches in machines where part or tool rotates. Multiple spiral flutes provide continuous cutting action. Broaches can be used to finish holes that have internal grooves, such as hydraulic valve bodies and bushings. They are easily and quickly resharpened without special tools or fixtures. Stocked diameters range from ⅛ to 1 in. in increments of 1/32-in. Made by **Shearcut Tool Co.**, Dept. NEDM-12, 7045 Darby Ave., Reseda, Calif.

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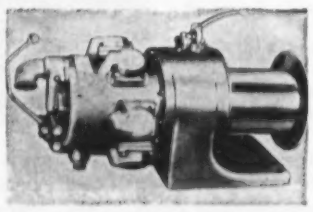
AIR POWERED HOISTS 1100 and 2200-lb capacities



Dragging, skidding and lifting operations can be performed by two air-powered hoists which have controllable speeds ranging from creep to 160 fpm at full load. Both operate on air pressures of 85 psi. The 265-lb model MHG-41 operates from a 1-in. airline, can lift up to 1100 lb and is equipped with 400 ft of 5/16-in. wire rope. Motor is rated at about 6.2 hp. The 530-lb model MHK-61 has a motor output of about 13.2 hp for handling 2200-lb loads. It operates from an 1½-in. airline and has 460 ft of 7/16-in. wire rope. Made by **Atlas Copco Eastern, Inc.**, Dept. NED, 151 Linwood Ave., Paterson, N. J.

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Solve special filter problems with standard units . . .

Got a filter problem? Solve it with one of our many standard units. Wide range of requirements covered!

ACIDS	DETERGENTS	
AIR	ESSENTIAL OILS	
ANTIBIOTICS	FATS	
ANTIFREEZE	FOODS	
BEVERAGES	FUEL	
CATALYSTS	GASES	
COATINGS	GASOLINE	
CONFECTIONS	GREASE	
COOLANTS	HYDRAULICS	
COSMETICS	INTERMEDIATES	
CUTTING FLUID	LACQUERS	
LIQUORS	PETROCHEMICALS	TOOTHPASTE
MEDICINES	PIGMENTS	VARNISHES
OILS	REFRIGERANTS	VEHICLES
OINTMENTS	SOLVENTS	VITAMINS
PAINTS	SYNTHETICS	WATER
PASTES	SYRUPS	WAXES

Write for Purolator General Filter Catalog, or send schematic drawing and details of your filter problem for specific recommendation. Address Dept. D4-128 Purolator Products, Inc., Rahway, New Jersey.

Filtration For Every Known Fluid

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey and Toronto, Ontario, Canada

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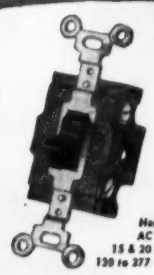
BUILT TO TAKE A BEATING

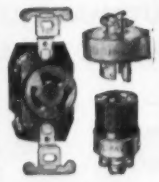
P&S
SUPER AC SWITCHES



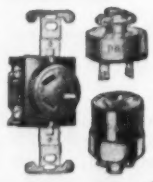
Made to surpass the most rigid requirements of specification wiring jobs, P&S Super AC Switches can't be matched for durability, dependability and versatility of application. Use them at FULL RATED CAPACITY for tungsten filament lamp loads, fluorescent installations, and at 80% of the switch rating on motor loads — the highest rating the National Electrical Code permits. Heavy silver-alloy contacts keep temperature rise at a minimum . . . a P&S Super AC Switch will handle full amperage 24-hours-a-day, seven-days-a-week.

P&S

TURNLOK and POLARIZED DEVICES



P&S TURNLOK® LINE — Designed for quick, easy back or side wiring. A simple turn of the cap gives positive, dependable connections—won't loosen or short out from hard usage. Connectors, receptacles and caps available in 10 and 20 Amp., 2, 3, and 4-wire types.



P&S POLARIZED DEVICES— Built sturdier with extra-thick bodies and extra-heavy metal parts to withstand rough usage over long periods of time. Ideal for industrial plants and construction work. A complete line of 10 and 20 Amp., 2, 3, and 4-wire connectors, receptacles, caps.

VALUABLE INFORMATION:
Write today for free catalogs on P&S Super AC Switches, Turnlok and Polarized Devices to Dept. NED-16.

P&S **PASS & SEYMOUR, INC.**
SYRACUSE 9, NEW YORK
60 E. 42nd St., New York 17, N. Y. 1229 W. Washington Blvd., Chicago 7, Ill.
In Canada: Renfrew Elec. & Refrig. Co., Ltd., Renfrew, Ontario

MAKE THE COMPLETE JOB *COMPLETELY* P&S

▲ For more details circle NED-507 A7 on enclosed inquiry slip ▲

HERE! NOW! TOMORROW'S ANSWER TO

TODAY'S SAFETY REQUIREMENTS

Pulmosan

"NEW CONCEPT" FACE SHIELD

SERIES PS 100

FEATURING 8 PRACTICAL POINTS OF SUPERIORITY

Headframe of unbreakable, soft plastic.
Reinforced all-plastic spark deflector.
Smooth, positive slide adjustment — 6-8½ headsize
Foam Rubber snap in-out sweatband.
Extra-wide acetate visor with new snap fastener.
Plastic bound visors.
More room between face and visor.
Featherweight — rugged — durable.

PULMOSAN STOPS Accidents

Pulmosan
SAFETY EQUIPMENT CORPORATION
644 Pacific Street, Brooklyn 17, N. Y., STerling 9-0200
1007 Washington Ave. St. Louis, Mo., CHestnut 1-9393

Write for complete descriptive literature, replacement parts list and prices on Series PS 100 (illustrated) and Series 200, 300 and 600 Face Shields.

For more details circle NED-508 A7 on enclosed inquiry slip

POWER FAILURE?

CROSS THIS WORRY OFF YOUR LIST WITH... Katolight STANDBY POWER

During power shut-downs you can keep vital, electrically operated equipment functioning . . . help keep production underway with a Katolight Emergency Power Plant! Ruggedly built, Katolight Standby and Continuous Duty Units can be depended on to deliver far more than their rated capacity . . . at surprisingly low cost. Sizes to 400 KW, with engines of standard manufacture—diesel, gasoline, natural gas, propane, butane.

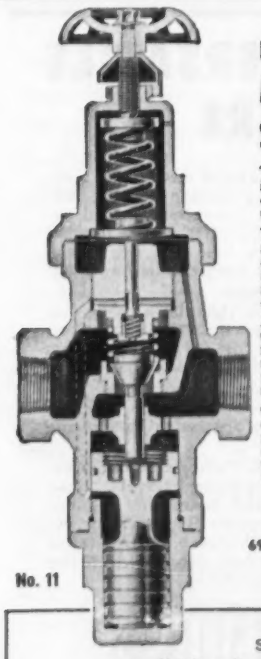
A Katolight Plant for every need — Industrial, Commercial, Institutional, Municipal.

KATOLIGHT PORTABLE POWER
. . . Speed work crews, cut costs. Plug-in convenience for electrical tools and equipment anywhere, anytime. 500 to 3500 watts, up.

NEW FOLDER! Write for details today.

KATOLIGHT CORPORATION BOX 891-76 MANKATO MINNESOTA

For more details circle NED-509 A7 on enclosed inquiry slip



HOW TO GET . . . More Sensitive STEAM Control

This No. 11 has a specially designed internal pilot valve. It gives fast, accurate response to the smallest variations.

This pilot valve and housing are an integral assembly, easily removed and accurately replaced. Superfinished stainless steel pilot valve, housing and main valve stop sticking and corrosion.

Lower Maintenance. Every detail of this Masoneilan No. 11 is designed for long, rugged duty with only routine cleaning usually required. All parts can be removed with the valve in line.

Check all of the features and ask others how these valves perform — you'll find that in economy and accuracy it is outstanding in its class. Order from your local distributor or write:

MASON-NEILAN
Division of Worthington Corporation
69 Nahatan Street, Norwood, Mass.

No. 11

MN6-1

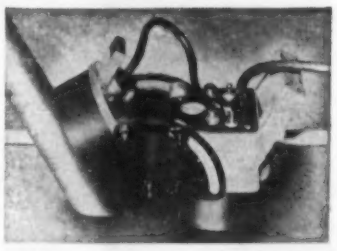
CONDENSED SPECIFICATIONS

	11-1 (bronze)	11-2 (iron)	11-3 (steel)
Ratings:	250 psi @ 475°F	250 psi @ 450°F	400 psi @ 550°F
Sizes:	½"-2"	2½"-4"	1"-3"
Reduced Pressure Ranges:	10-90; 75-225 psi	10-75; 35-225 psi	35-225; 100-350 psi

Order from Your Masoneilan Distributor • Use His Experience • Save Time • Save Work

For more details circle NED-510 A7 on enclosed inquiry slip

MAGNETIC WELDING FIXTURE positions parts at any angle

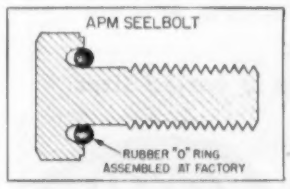


Ferrous metals can be held in position for welding at any angle by the Mag-Tool magnetic welding fixture. Easily adjusted, it positions accurately with a minimum of setup and releases immediately. Large or small pieces can be handled by the portable fixture, operable by one man. Three models with a maximum capacity of over 1 ton are offered. Made by **Magnetic Tool Corp.**, Dept. E., 1955 Lafayette St., Santa Clara, Calif.

For more details circle NED-511 A7 on enclosed inquiry slip

SELF-SEALING BOLTS assembled with O-ring under head

An O-ring of silicone rubber or neoprene, which is firmly held in a groove under bolt head, enables Seelbolts to be used for high pressure sealing or for applications requiring resistance to heavy vibration. Silicone rings are offered for high and low temperature uses, while neoprene is specified for chemical resistance. Conforming to dimensions and materials of AN bolts, Seelbolts are made with standard hexagonal heads in sizes from 10-32 up to ½-20. Steel, brass, corrosion-resistant steel or aluminum, as well as plated bolts can be supplied. Made by **Automatic & Precision Mfg. Co.**, Dept. NED, 252 Hawthorne Ave., Yonkers, N. Y.



For more details circle NED-512 A7 on enclosed inquiry slip

ALUMINUM-FRAMED CHALKBOARDS in sizes up to 4 x 8 ft

Both AT and AE styles of chalkboards have anodized aluminum frames with smooth formed corners. Style AT has light green writing surface, eyelets for hanging and full cnalk rail. It is made in 18 x 24 and 24 x 36-in. sizes. Style AE, with soft green Litesite chalkboard, has eyelets for hanging, or can be used on an easel or fastened permanently to wall. Six sizes range from 3 x 4 ft to 4 x 8 ft. Writing with chalk is effortless and erasing is easy. Made by **Weber Costello Co.**, Eleventh & McKinley, Chicago Heights, Ill.

For more details circle NED-513 A7 on enclosed inquiry slip

Fast, Economical HAND SEALER For Polyethylene, Pliofilm
And Other Thermo-Plastic Films

IDEAL FOR SHORT RUNS, TEST WORK, LABORATORIES, PRODUCTION LINES

SEALINE HAND SEALER

$23.90 F.O.B. CHICAGO

- For fast, flat sealing—straight or irregular shapes.
- Seals direct—no intermediate material required.
- Accurate adjustable heat control—200° to 450° F.
- Easy to handle—weighs less than 1 lb.

Order direct or write

SEALINE MFG. CORP.
4720 W. Lake St., Chicago 44, Illinois

For more details circle NED-514 A7 on enclosed inquiry slip

Just a single stroke!...
CUTS ROUND RODS ⅛" to ⅞" on a
MARVEL ROD CUTTER

Available in three models:

No. 5	⅛	3/16	¼	5/16	3/8
No. 6	3/8	7/16	½	9/16	5/8
No. 7	3/8	½	5/8	¾	7/8

These are bench models, but the No. 7 MARVEL Rod Cutter can be furnished mounted on legs. See your Industrial Distributor or write us for literature and prices.

ARMSTRONG-BLUM MFG. CO.
5700 W. Bloomingdale Ave. • Chicago 39, U.S.A.
Manufacturers of the outstanding MARVEL Metal Saws.

For more details circle NED-515 A7 on enclosed inquiry slip

HERE'S YOUR NEW CATALOG ON THE COMPLETE LINE OF MONARCH SOLID TIRES!

CATALOG MR-457 illustrates and describes the types and sizes of Monarch tires available for every lift truck job. This colorful 16-page booklet also contains preventive maintenance data, comparative "fatigue test" statistics and a special supplementary folder of lift truck manufacturers' specifications.

WRITE TODAY FOR YOUR FREE COPY!

THE MONARCH RUBBER COMPANY
260 LINCOLN PARK • HARTVILLE, O.
• 7-255 Gen. Motors Bldg., Detroit, Mich.
• 1035 Bartlett Street, Hayward, Calif.

9517-MR

For more details circle NED-516 A7 on enclosed inquiry slip

The most important advance in tube fittings in 20 years!

IMPERIAL HI-SEAL

available in steel and stainless steel

- makes a positive butt-joint
- no need to spring tubing
- withstands higher pressures
- foolproof assembly — fitting goes together only one way
- no flaring or threading

Get all the facts on the time-saving, money-saving Imperial Hi-Seal — the *only* flareless fitting that answers *all* the requirements of the "ideal tube fitting!" Conforms to J.I.C. requirements. Available for ⅛ to 1½ inch O.D. tubing. Write TODAY for new Hi-Seal bulletin 3061.

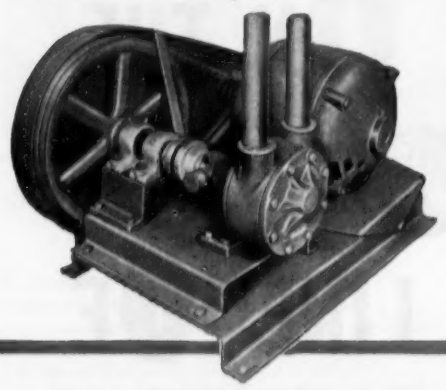
THE IMPERIAL BRASS MFG. CO., 510 S. Racine Ave., Chicago 7, Ill.
In Canada: 334 Lauder Ave., Toronto, Ontario

IMPERIAL — Industry's Most Complete Line of Tube Fittings and Tubing Tools

For more details circle NED-518 A7 on enclosed inquiry slip

new TUTHILL SU PUMP UNITS

- *For heavy fuel oil . . . in commercial oil burner and other applications*
- *For other viscous liquids*



These economically priced new Tuthill "V" Belt Driven Pump Units have been developed specifically for handling heavy fuel oils in heating and other applications . . . and for moving all types of highly viscous non-corrosive liquids.

Compact and lightweight, SU Units can be furnished with overall dimensions of only 25¼" x 14⅝". The multiple "V" Belt Drive and special pump construction insure quiet operation.

Dependable, trouble-free operation and minimum maintenance are provided by quality construction features, such as two ball bearing pillow blocks, a one point take-up which simplifies belt tension adjustment, flexible coupling, removable belt guard and a special fabricated steel base which accommodates a wide range of motors.

Complete SU Units are furnished for either 2 or 4 Belt Drive with a wide variety of Tuthill internal gear positive displacement pumps for pressures up to 300 p.s.i., capacities to 2030 gallons per hour. Sub-assemblies of pump, stub shafts, pillow blocks and sub-base may be furnished separately, as a unit, for incorporation into the products of manufacturers.

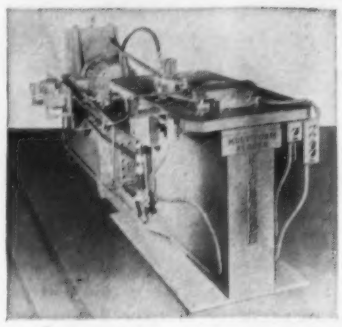
Write for 8-page Catalog 107 which gives details, dimensions and operating characteristics

TUTHILL PUMP COMPANY
957 East 95th Street, Chicago 19, Illinois
Gentlemen:
☐ Please forward Catalog 107 on SU Pump Units
☐ Please forward information on complete Tuthill line
NAME_____ COMPANY_____
TITLE_____
STREET_____
CITY_____ STATE_____

TUTHILL PUMP COMPANY
957 East 95th Street, Chicago 19, Ill.
Canadian Affiliate: Ingersoll Machine & Tool Company, Ltd., Ingersoll, Ontario, Canada
PUMPS FOR YOUR PURPOSE

For more details circle NED-519 A7 on enclosed inquiry slip

HYDRAULIC BENDER
also adapts to stamping, blanking



Model BB-CS Big Brother hydraulic bender with table size of 30 x 56 in. has 4-in. standard ram stroke, 18 - in. auxiliary cylinder sweep stroke and shut distance between heads of 6 and 8 in. Operated by 15 - hp totally-enclosed G-E motor, unit has bending power of 25 tons and automatic production cycle of 6 seconds. It can be equipped for bus bar forming, metal fabricating, stamping, blanking, staking or piercing, using dies, mandrels or combination of these, including one or more auxiliary bending sweeps. Machine is shown equipped for production of tubular back supports. Made by **J. A. Richards Co.**, Corner Myrtle & Pitcher Sts., Kalamazoo, Mich.

For more details circle NED-520 A7 on enclosed inquiry slip

ROOF VENTILATORS
three types made in varied sizes

Rotary turbine, stationary and revolving head types of weatherproof gravity roof ventilators are made of galvanized steel in a variety of sizes. Rotary turbine model is made in light construction and larger industrial models. Both feature weatherproof rotor bearings, noiseless construction and turn with wind of minimum velocity. Stationary type draws air by utilizing pressure differentials between inside and outside atmospheres. Revolving head type has a weathervane fin which is sensitive to slight wind shifts to keep the exhaust opening downwind. Balanced head revolves on Oilite bronze radial bearing. Made by **Leslie Welding Co.**, 2937 W. Carroll Ave., Chicago, Ill.

For more details circle NED-521 A7 on enclosed inquiry slip

"Remember Me"
JOIN THE MARCH OF DIMES
IN JANUARY

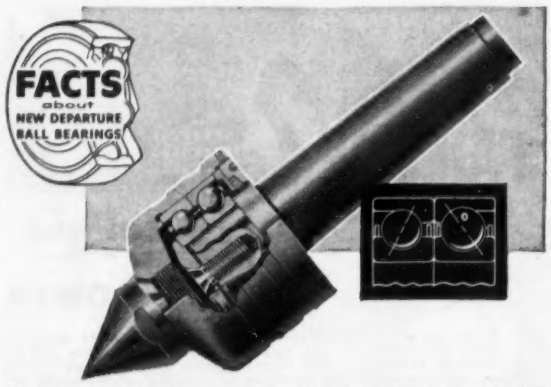
BENCH TOPS
LAMINATED HARD MAPLE

Tolco bench tops are the first choice of the country's leading industries. They are "industry proven" for assembly benches, laboratory tables, cutting tables, workbenches and packing tables. Select pieces of ¾" Northern, hard maple laminations are electronically glued into a solid maple top. No soft wood cores—will not chip—easy and inexpensive to refinish. Full range of sizes. Sold by better distributors everywhere.

WRITE FOR NEW TECHNICAL LEAFLET AND PRICES.

THE TOLERTON COMPANY
P. O. BOX K658 • ALLIANCE, OHIO
ESTABLISHED 1894

For more details circle NED-523 A7 on enclosed inquiry slip



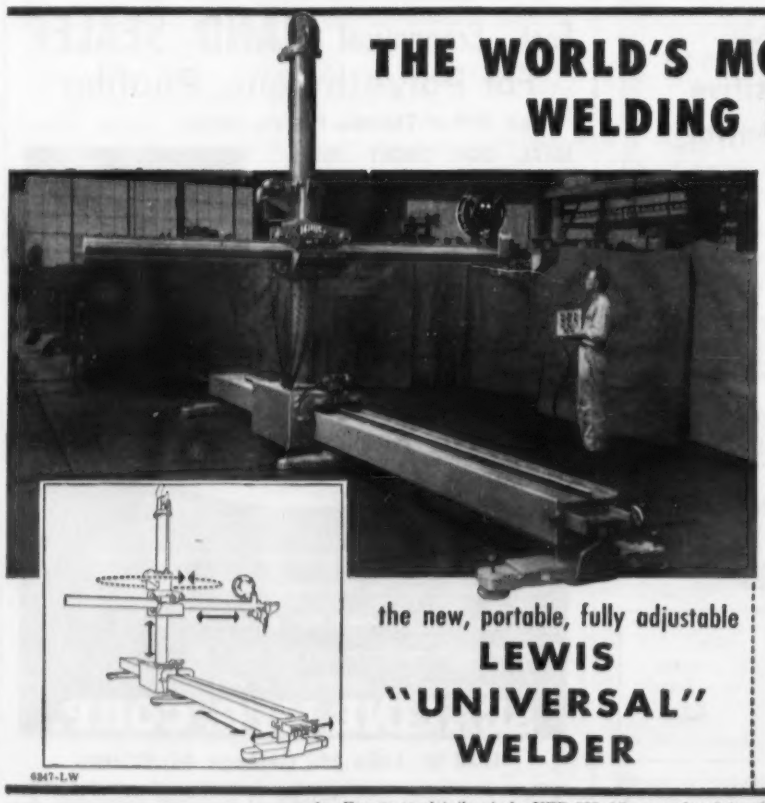
PRELOADED BALL BEARINGS HELP CENTER MAKERS GUARANTEE ACCURACY TO WITHIN .000050"!

Accuracy . . . to within less than .000050" total indicator runout! Such super accuracy of work stems from the ability of preloaded duplex ball bearings to handle combination loads with minimum deflection. In live center applications, New Departure ball bearings with medium and high contact angles are mounted duplex and positively clamped together to assure the correct predetermined preload condition. As work expansion increases the thrust load, radial centering becomes more rigid and accuracy is precisely maintained. Write for further details.

NEW DEPARTURE
DIVISION OF GENERAL MOTORS • BRISTOL, CONN.

For more details circle NED-524 A7 on enclosed inquiry slip

THE WORLD'S MOST VERSATILE WELDING FIXTURE



the new, portable, fully adjustable
LEWIS "UNIVERSAL" WELDER

Exclusive features of this LEWIS automatic welding fixture include full portability . . . simultaneous 3-directional travel . . . 360° boom rotation . . . adjustable base . . . use of any standard head for welding, flame cutting or hardening.

Designed to handle a wide variety of jobs, this fixture reduces set-up time for large weldments 60% or more. It can be moved easily by crane to any plant location. Full boom rotation permits multiple set-ups with only one machine.

The LEWIS "Universal" Welder has 18 feet of longitudinal travel . . . can be supplied with booms and columns of different lengths. Transverse travel of boom and clearance under it range from 8 to 12 feet, depending on size of machine.

LEWIS

THE LEWIS WELDING & ENGINEERING CORP.
14 Interstate Street • Bedford, Ohio

6847-LW

For more details circle NED-522 A7 on enclosed inquiry slip

How to Control DUST, FUMES, ODORS...

economically and efficiently with Johnson-March Engineered Systems

Johnson-March dust control experts can solve any problem or combination of problems involving elimination of dust from sub-micron sizes up. What's your problem? There's a low-cost way to solve it.

Johnson March
Dust Control Engineers
1724 CHESTNUT ST., PHILADELPHIA 3, PA.
Canadian Representative: G. F. Sterne and Sons, Ltd. Brantford, Ontario

For more details circle NED-525 A7 on enclosed inquiry slip

WHAT'S NEW IN MOTOR CONTROL?

STANDARD CONTROL COMPONENTS FOR FULL THREE-PHASE SAFETY

The chief designing engineer of a prominent machinery builder says, "As machines become more automatic, electric motors become a more integral part of machines and any trouble with motors can prove unbearably expensive in downtime and repair expense. We believe it foolish to chance motor burnouts avoidable with three-coil overload relays, especially since standard components now available provide such protection with no panel crowding and so little extra cost."

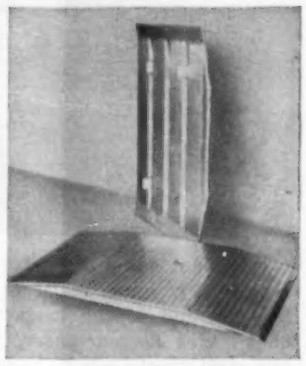
Only Cutler-Hammer Three-Star standard control components provide this protection. For complete design data, write on your company letterhead for Pub. EE120, "Panel Builders Handbook". No charge or obligation. CUTLER-HAMMER, Inc., 1377 St. Paul Avenue, Milwaukee 1, Wis.

CUTLER-HAMMER MOTOR CONTROL C-H

GET IT FIRST IN CUTLER-HAMMER

For more details circle NED-526 A7 on enclosed inquiry slip

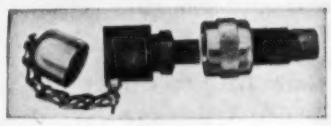
FREIGHT CAR APRON
magnesium units support 50,000 lb



Used as bridging between flat cars in the truck-rail Piggy-Back service, these magnesium flat car aprons can be effectively used wherever lightweight bridging is needed for movement of heavily loaded vehicles. Aprons are used in pairs and weigh less than 100 lb each. They are designed to support axle loading of 50,000 lb although only 2 in. thick. Standard apron measures 30 x 56 in. Other standard and special sizes are available. Made by **Copperloy Corp.**, Lite Line Industries Div., 4116 Brookpark Rd., Cleveland 29, O.

For more details circle NED-527 A7 on enclosed inquiry slip

QUICK-CONNECT COUPLING
for high pressure hydraulic lines



Self - sealing, leakproof quick-connect coupling for high pressure lines is opened and closed by a few turns of the threaded female union coupling which actuates two spring loaded pins. When disconnected an attached dustcap protects the threads and prevents entry of dirt. Unit is rated at 5000 psi. Made by **Wisconsin Hydraulics, Inc.**, 3166 N. 30th St., Milwaukee 16, Wis.

For more details circle NED-528 A7 on enclosed inquiry slip

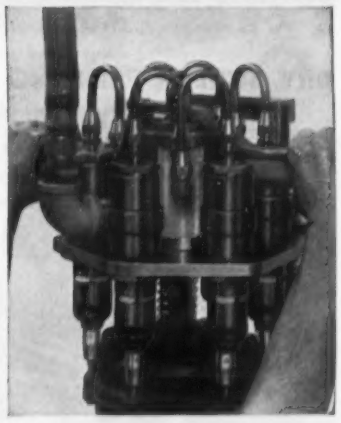
ROTARY TABLE
simplifies circular machining jobs

Base of this 12-in. diameter rotary table allows both horizontal and vertical operation. Table is parallel through 360 degrees to within 0.0001-in., while center hole run-out is no more than 0.0005-in. Ground lead screw, bronze main bearing and full lubrication of all parts are featured. In vertical position, unit is bolted to machine table through two 3-in. slots in vertical resting surfaces. Slots accommodate machine table T-slots of from 3 to 8½-in. centers. Dial is graduated in minutes and table in degrees. One turn of dial gives 4 degrees of circular motion to table. Neutral position for rotating gearing allows rapid hand rotation for quick setups. Made by **Universal Vise & Tool Co.**, 12 Nedo St., Parma, Mich.

For more details circle NED-529 A7 on enclosed inquiry slip

for production fastening

BUCKEYE multiple unit tools for screwdriving nutrunning — and drilling



This Buckeye Tools multiple-unit fastening tool runs down six hex head bolts simultaneously. It could be designed to handle more bolts, different sizes of bolts, or to run them down at different levels at the same time. Or, it could run down bolts at various angles, even straight up!

This is just one of many new Buckeye fastening tools. Are you sure you're doing your fastening work the modern way? Our Catalog A-10 will show you—it's yours for the asking.

In Air Tools, Your Best Buy Is Buckeye

Buckeye Tools CORPORATION
DIVISION 34 • DAYTON 1, OHIO

For more details circle NED-530 A7 on enclosed inquiry slip

NEW BALANCED CUTTING ACTION
Severance ECARNO-MILLS
THE ECONOMY MILL NEW DESIGN NEW CARBIDE

Make your money count! Replace more H.S. Rotaries and Mounted Grinding Points.

A NEW LOW PRICED HIGH CLASS PERFORMER

Made by the originator of ground-from-the-solid Rotary Files, and pioneer in this type of Carbide Mill, who presently offer the largest range of standard types, shapes, and sizes.

YOUR SPECIAL DEBURRING PROBLEMS ARE SOLICITED

OPERATE EFFICIENTLY AT USUAL CARBIDE SPEEDS, YET PERFORM BEAUTIFULLY AT THE SLOWER SPEEDS OF STEEL CUTTERS

PHONE, WIRE, OR WRITE US NOW FOR PRICES

Severance TOOL INDUSTRIES INC.
761 Iowa Ave. Saginaw, Michigan
Ask for a Severance catalog today!

For more details circle NED-531 A7 on enclosed inquiry slip

FOR DEFENSE INDUSTRY MACHINIST WORKMAN FARMER

1ST IN METAL TOOL BOXES
CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition.

WATERLOO METAL BOXES AND CHESTS

Write for FREE book, including complete information.

Waterloo
VALVE SPRING COMPRESSOR CO.
WATERLOO, IOWA

For more details circle NED-532 A7 on enclosed inquiry slip

no more cold feet with Electro-Mat
ELECTRIC FLOOR MAT

helps prevent colds

Production line and office workers can now work in absolute comfort

The new low priced ELECTRO MAT throws off a gentle warmth that keeps workers healthy, happy and comfortable. 14" x 21" portable foot warmer is safe and economical . . . consuming less power than a 75 Watt light bulb. It is made of high quality neoprene rubber.

Attention Employers

Increase the efficiency of your employees and help prevent colds which cause absenteeism by equipping each employee with an Electro Mat.

Mail check or money order today Only $7.95 Delivered

IMPORTANT SAVING: If 6 or more Electro Mats ordered price is only $6.95
Please send me: ☐ Electro Mat at $7.95 each. Enclosed is my check ☐ money order ☐ ☐ C.O.D. I am enclosing $1.00. Will pay postman balance of $6.95 plus C.O.D. fee

Name _____
Street _____ Zone _____
City _____ State _____

10 Day Money Back Guarantee
INTERSTATE RUBBER PRODUCTS CORP., Dept. 141
908 Avila St., Los Angeles 12, California
12020 Lake Ave., Lakewood, Ohio

Dealer Inquiries Invited.

For more details circle NED-533 A7 on enclosed inquiry slip

HOW?

How do you get the *best* protection against fire? By selecting from the complete Kidde line of portable fire extinguishers . . . carbon dioxide, dry chemical, soda-acid, water, foam, and vaporizing liquid.

How do you get the *best* fire extinguisher servicing? From your Kidde recharging service station. You'll find it listed in the yellow pages of your classified telephone directory, or write Kidde for information.

The words 'Kidde', 'Lux', 'Lux-O-Matic', 'Fyre-Freez' and the Kidde seal are trademarks of Walter Kidde & Company, Inc. and its associated companies.

Kidde

Walter Kidde & Company, Inc.
124 Main St., Belleville 9, N. J.

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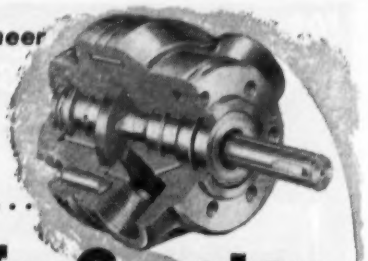
How to Engineer Dependability into your Hydraulic System . . .



Specify Gerotor Hydraulic Pumps

Years of trouble-free operation are yours with the Gerotor line of precision-manufactured hydraulic pumps. The unique Gerotor principle . . . heart of every Gerotor pump . . . is so designed that friction is reduced to a minimum. No friction . . . no wear!

Gerotor Hydraulic Pumps, designed into your hydraulic systems, assure lower maintenance costs over longer life. Standard Gerotor pumps are available in capacities ranging from .4 g.p.m. to 40 g.p.m.

Due to modern production facilities, Gerotor can produce special pump designs in *quantities* on an economical basis. Whatever your hydraulic pump problems, bring them to Gerotor.

FREE literature available . . . write:

GEROTOR MAY CORP.

Manufacturers of: Hydraulic Pumps and Motors • Variable Speed Hydraulic Transmissions • PneuBin - pneumatic bin evacuators

Owings Mills, Maryland

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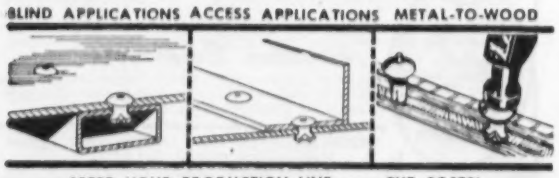
LOOK HOW EASY... AND FAST RIVETING CAN BE WHEN YOU USE SOUTHCO DRIVE RIVETS!

Rivet and Mfg. Patented.

a hammer is the only tool
...drive like nails
...automatic "pull-up" action

Fastest for:

BLIND APPLICATIONS ACCESS APPLICATIONS METAL-TO-WOOD



SPEED YOUR PRODUCTION LINE . . . CUT COSTS!

For complete data, write Southco Division, South Chester Corporation, 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS
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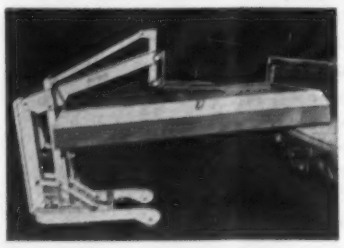
▲ For more details circle NED-536 A7 on enclosed inquiry slip ▲

FORK TRUCK
crane arm can reach 108-in. height



Weighing less than 3000 lb, the Hydrauliphant fork truck can work on elevators, light load bearing floors and light truck beds, yet can lift, load and haul heavy loads. Ground level loading and unloading of trucks is possible, as its crane type load arm can reach up to a 108-in. height with free lift and deposit loads well back in truck beds. Such items as machinery, bales, skids, pipe, tanks and steel sheets can be handled. Narrow width permits use in narrow aisles. A single pedal drive and a small steering wheel are the driving controls built into four electrically powered models. Made by **Autoquip Corp.**, Dept. N, 1140 S. Washtenaw, Chicago 12, Ill.

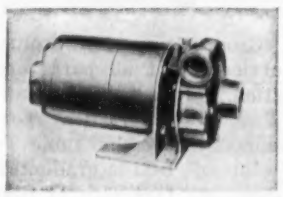
▲ For more details circle NED-537 A7 on enclosed inquiry slip ▲

PLASTIC COATING UNIT
sprays or dip coats metals

Both dip and spray coating of finely divided polyethylene powders to metal targets can be done with the Mark III mobile coating unit. With fluidizing (dip) process, nylon and fluorocarbons can be utilized as well. Unit consists of metal reservoir hopper, 15 in. in diameter and 24 in. deep in the powder bed. It rolls on 6-in. rubber-tired wheels and operates on plant compressed air. Offered with unit are 15 ft of air and powder feed hose together with an aluminum spray gun equipped with needle and control valves. Made by **American Agile Corp.**, Dept. E, Box 168, Bedford, O.

▲ For more details circle NED-538 A7 on enclosed inquiry slip ▲

CENTRIFUGAL PUMPS
close-coupled, permanently aligned

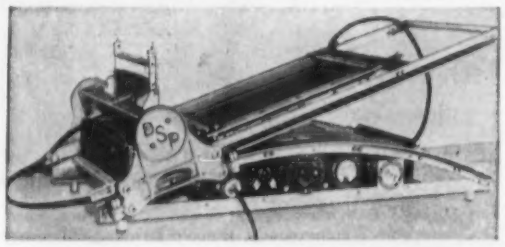


Motor and close-coupled centrifugal pump assembled as a single unit facilitates their installation for air conditioning, booster, condensate and other services. Close-coupled construction assures permanent alignment of rotating parts. Once the pump is primed, the maintenance-free mechanical seal is protected from running dry. Discharge can be located in any of eight positions. Single-stage, enclosed impeller pump is available in 1 and 1¼-in. sizes with motors from ¼ to 2 hp and capacities up to 100 gpm, and in 1½ and 2½-in. models with 3 to 7½-hp motors and capacities up to 350 gpm. Made by **Goulds Pumps, Inc.**, Dept. NED, 21 Black Brook Rd., Seneca Falls, N. Y.

▲ For more details circle NED-539 A7 on enclosed inquiry slip ▲

DRY SCREEN PRINTING PRESS
tests prototype printed circuits

Printed circuit panels come off the Mark III Junior dry screen process press dry and ready for etching. Press is designed for laboratory use to prove out



prototype printed circuit designs which can be duplicated in large scale production. Printing is on either single or double copper-clad laminate up to 1/8-in. thick. Effective printing surface is 8 x 14 in. and micrometer registry makes back-to-back designs accurate within 0.007-in. Thermoplastic resist is printed through a temperature controlled wire screen. Made by **Dry Screen Process Inc.**, Dept. N5, 1016 Madison Ave., Pittsburgh 12, Pa.

▲ For more details circle NED-540 A7 on enclosed inquiry slip ▲

Sets both ¼" and ⅜" diameter studs in steel or concrete!

CUT FASTENING TIME AND COSTS with new one-man tool that sets both ¼" and ⅜" diameter studs at speeds up to 6 a minute. Securely anchors wood sections and steel fixtures to steel and concrete. Blank cartridge type Power-Loads—no wires or cable. No pre-drilling needed. Mail reader service card for copy of informative booklet.

Remington DU PONT

Industrial Sales Div. NED-1 Remington Arms Co. Inc. Bridgeport 2, Conn.

▲ For more details circle NED-541 A7 on enclosed inquiry slip ▲

DESIGNER APPROVED
FOR OVER A DECADE

NEW LOGAN RFL UNIT No. 400

Companion unit to the popular Logan No. 600.

√ Compact, Complete
√ Air Line Filter
√ Pressure Regulator
√ Lubricator

For maximum efficiency insist on Logan RFL Unit . . . the lubricating unit machine tool designers have been using for over a decade.

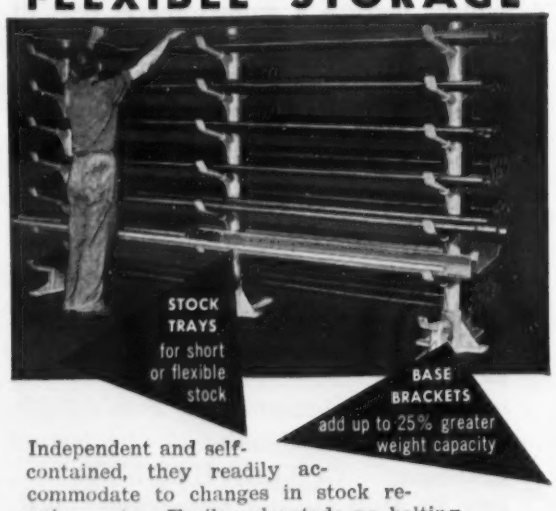
FREE
Handy Logan CALCULATOR
Mailed promptly on request.

WRITE FOR CATALOG 100—SECTION 4

Logansport Machine Co., Inc.
808 Center Avenue
Logansport, Indiana

▲ For more details circle NED-542 A7 on enclosed inquiry slip ▲

FLEXIBLE STORAGE



Independent and self-contained, they readily accommodate to changes in stock requirements. Easily relocated; no bolting. You get more into less space; you save time in storing and issuing with Brown Section Racks. Iron and steel construction. Can't burn, warp, sag. Never wear out. Eliminate safety hazards. Act now! Write for complete specs and prices on models and sizes. Brown Engineering Co., 129 N. 3rd Street, Reading, Pa.

BROWN QUICK-SERVE RACKS

▲ For more details circle NED-543 A7 on enclosed inquiry slip ▲

HYDE knives are in the works

cherry slicer

made by **DUNKLEY**
KALAMAZOO, MICH.

HYDE CIRCULAR KNIVES were selected for this maraschino cherry slicer to assure faster-cleaner sliced cherry halves.

HYDE CAN HELP YOU with your cutting needs *WRITE FOR FREE CATALOG AND SPEC. SHEET*

HYDE PRODUCTS FOR INDUSTRY

HYDE MANUFACTURING CO.
SOUTHBRIDGE, MASS., U.S.A.

For more details circle NED-544 A7 on enclosed inquiry slip

You wouldn't know they're *safety* spectacles until they're *needed!*

NOW—WILLSON DESIGN provides this *new concept* of style combined with protection—ideal for day-long wear!

You'll see a dramatic difference in this protective eyewear that's styled for greatest worker acceptance! New *wide-vision* lenses. New popular plastic frame styles. New designs that add distinctiveness to safety spectacles at last!

Workers will wear them willingly—with the Willson "Super-Tough" lenses prescription ground, if desired—because these new styles are as handsome as frames can be!

A full range of eye, bridge and temple sizes have been developed into attractive eyewear by the Willson Research Center. Ask your Willson distributor to show you the WF line soon.

Style WF—new wide-vision frame shape in flesh-color butyrate; spatula or half plastic-half cable temples

Style WFD—demi-amber wide-vision butyrate frame; matching spatula temples

Style WFB—popular Willson Bronze, wide-vision frame; spatula or half plastic-half cable temples

Style WFH—wide vision lenses, spatula temples—in new half-frame design (demi-amber overlay on upper half of crystal butyrate frame)

Over 300 safety products carry this world-famous trademark

WILLSON PRODUCTS DIVISION RAY-O-VAC COMPANY
219 Washington Street, Reading, Pennsylvania

For more details circle NED-545 A7 on enclosed inquiry slip

RATIO & CUTTER CALCULATOR aids engraving machine users

This 3 x 7-in. pocket calculator will assist engraving machine users to find the correct pantograph ratio and proper width of cutter when engraving letters with a specific overall height from single line master copy type. It covers seven master copy type sizes from 3/8 to 3 in. high for engraving 34 sizes of letters ranging from 1/16 to 3½ in. high. Selector is made of plastic on which instructions for use are printed. Offered for $1.00 by **H. P. Preis Engraving Machine Co.**, 252 Industrial Branch, Hillside, N. J.

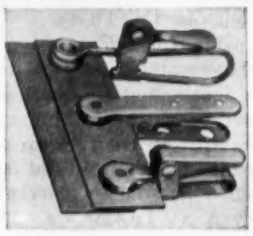
For more details circle NED-546 A7 on enclosed inquiry slip

COINCIDENCE THYRATRON TUBE provides double or triple control

Possessing three control grids, the KP-80 thyratron tube is suited for use where the coincidence of either two or three events (signals received) causes some operation (tube conduction). It operates on the principle of ion deflection and can be applied to computers, automation control apparatus, coding or programming devices or counters. In circuits where coincidence functions are accomplished with as many as 14 components, use of the tube will minimize the number of components and assembly time required. Made by **Kip Electronics Corp.**, Dept. R-1, 29 Holly Pl., Stamford, Conn.

For more details circle NED-547 A7 on enclosed inquiry slip

MULTIPURPOSE CLAMPS hold materials during assembly



In a matter of seconds an operator can attach these multipurpose Yates clamps to metal parts, plastics, templates, molded parts, fabrications or films as they pass through an assembly line. Clamps are particularly useful for dipping, flange and edge work, and bench or wall uses. They can replace both screws and bolts used for holding materials in position during assembly or processing. Four basic types include the flat spring-steel clamp with cam lock, spring grip clamp, spring wire clamp with cam lock and the conveyor clamp with three-prong saw-tooth jaws. All except last are equipped with rubber jaws. Made by **Wedgelock Corp.**, Dept. 1-R, 5446 Satsuma Ave., North Hollywood, Calif.

For more details circle NED-548 A7 on enclosed inquiry slip

Keep your plant cleaner with

INVINCIBLE VACUUM CLEANERS

Invincible Light, Portable—1½ H. P.

These Invincible features insure outstanding performance: 1. Multi-stage turbines produce plenty of power. 2. Positive Separation precedes vacuum producer. 3. Reach *every* surface with attachment tools. 4. Also recover scores of industrial materials. 5. Compact, portable; no interference with production. 6. 15 models from ½ to 5 H.P. 7. Larger models can be operated continuously. 8. No dirt or abrasives ever touch moving parts . . . *Over 100,000 Invincibles in use—5,000 for over 25 years. Send for free bulletin.*

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

For more details circle NED-549 A7 on enclosed inquiry slip

DARNELL
CASTERS AND WHEELS

built to meet the demands of a
SPECIAL JOB—OR ANY JOB

RUBBER TREADS . . . a wide choice of treads suited to all types of floors, including Darnelloprene oil, water and chemical-resistant treads, make Darnell Casters and Wheels highly adapted to rough usage.

RUST-PROOFED . . . by zinc plating, Darnell Casters give longer, care-free life wherever water, steam and corroding chemicals are freely used.

LUBRICATION . . . all swivel and wheel bearings are factory packed with a high quality grease that "stands up" under attack by heat and water. Zerk fittings are provided for quick grease-gun lubrication.

STRING GUARDS . . . Even though string and ravelings may wind around the hub, these string guards insure easy rolling at all times.

OVER 4000 TYPES OF CASTERS & WHEELS

Free Manual

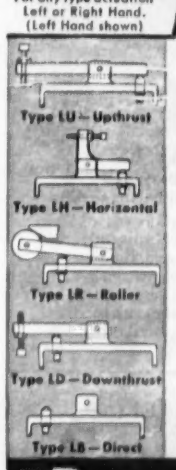
DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

For more details circle NED-550 A7 on enclosed inquiry slip

Pneu-Trol TIME DELAY CONTROL SWITCH

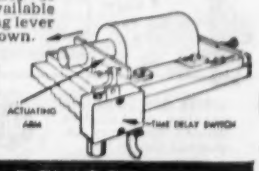
. . . Gives Cylinder Applications Greater Efficiency Accuracy . . . Wider Use!

For any type actuation Left or Right Hand. (Left Hand shown)



- **Holds Cylinder dwell accurately to fraction of second.**
- **Automatically re-sets.**
- **Simple, Compact, Rugged.**

You can hold any motion or operation controlled or actuated by air or hydraulic cylinders at a positive stop on either end of the stroke for ¼ to 60 seconds in 20 to 1 ratios with Pneu-Trol Time Delay Control Switches. Simple in design with positive hydraulic timing action . . . compact and easily mounted on the machine or fixture. Pneu-Trol Switches are providing millions of trouble-free actuations in solenoid-operated cylinder applications of every type. Positive, controlled time dwell permits wider use of air or hydraulic power in automatic operations, increases accuracy of work by insuring split-second accuracy of the dwell. Available with 5 actuating lever linkages as shown.



Switch mounted to provide dwell at end of power stroke of single action, spring return cylinder.

Pneu-Trol DEVICES, INC.
1432 N. KEATING AVENUE • CHICAGO 51, ILL.

For more details circle NED-551 A7 on enclosed inquiry slip

Spray Nozzles FOR EVERY REQUIREMENT . . .

Delavan Nozzles are available in a full range of capacities and spray patterns for every application.

NEED NOZZLES ?

Delavan Catalog 32 is cross-indexed to make it easy for you to select the best nozzle for your specific requirements. Write for Catalog 32.

DELAVAN *Manufacturing Co.*
West Des Moines, Iowa

For more details circle NED-552 A7 on enclosed inquiry slip

The HUNTER DRILL-PRESS

RECIPROCATING CONVERTER RC

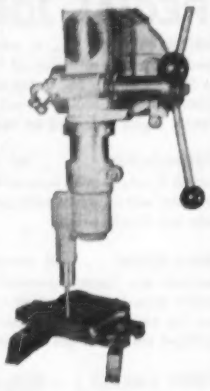
makes your Drill-Press a Multi-Purpose machine IN "MINUTES"

Precision made to meet the rigid specification requirements of tool and die shops. Ideal for wood, plastic, metal working plants and home work shops, the R. C. can be adapted to any drill press using the chuck taper spindle.

SAWS • FILES • SLOTS

1" and 1¾" stroke models can be used for any job requiring vertical reciprocating action.

ACCURATE • FAST • VERSATILE •



by HUNTER TOOLS maker of the Smitty in five sizes

Send for FREE Complete Industrial Catalog

HUNTER TOOLS • P.O. Box 564 • Whittier, Calif.

For more details circle NED-553 A7 on enclosed inquiry slip

NEW NYLON KOOLSHIELD

POSITIVE PROTECTION FROM HOT REFLECTOR When Using 100-Watt Lamp

A marvelous new accessory that snaps over reflector to guard against burning. $1.02 ea. in standard pkg. of 4

Fits all old and new model Localites with half shade reflector

FOSTORIA LOCALITES

Finest Seeing Tools Ever Designed for Machine Tools, Assembly, Inspection

MODEL 55-BH-701 $7.90 EACH In Std. Pkg. of 4

Frictional arm and collar disc joints give flexibility of a thousand positions to direct light exactly as wanted. Rugged construction with heavy duty industrial socket Levolier switch and universal base. Millions in use for fast, accurate, safe seeing.

WRITE for complete catalog of Localite Models for every industrial use.

THE FOSTORIA PRESSED STEEL CORPORATION, FOSTORIA, OHIO

Localites are available through wholesalers everywhere

LOCALITE fostoria for Light ON the Job

For more details circle NED-554 A7 on enclosed inquiry slip

For Dependable Flow Control!

. . . use

DAVIS FLOAT VALVES

THE DAVIS NO. 60 FLOAT VALVE

ENGINEERS interested in working out efficient, trouble-free fluid level and flow control hookups will find a wide choice of units offered in the Davis line of float valves, float boxes, and fluid control valves.

For Float Valve dependability the Davis No. 60 is unexcelled. Here are a few of its outstanding features:

1. The Famous Davis Single-Seat Pilot Stem Valve! Tight-closing and non-sticking. Standard sizes will open against any pressure up to 125 lbs.
2. No internal packing! Disc renewable easily and economically. Hot or cold liquid at high or low pressure handled without hunting or water hammer.
3. Sizes 3" and smaller are all-brass valves. Larger sizes have semi-steel body, bronze bonnet, piston and trim. Globe or angle body patterns. Send for Bulletin 101-B.

Davis DAVIS REGULATOR COMPANY

2531 South Washtenaw • Chicago 8, Illinois

For more details circle NED-555 A7 on enclosed inquiry slip

FABRICATED VENTURI TUBE in diameters from 6 to 96 in.

Considerably lighter than cast iron type, the PVF fabricated Venturi tube can be used for measuring flow of liquids and gases in industrial, process, sewage and industrial waste applications. Inner formed section is made of stainless steel, while surrounding pipe section can be carbon or stainless clad steel pipe. Single or multiple tap design can be employed. Tube is readily adaptable to variety of end fittings and may be equipped with welded or slip-on flanges. It can also have welding or bell and spigot ends, or can be used with mechanical type couplings. Manually-operated cleaning valves at the main and the throat can be specified. Diameters range from 6 to 96 in. Made by **Burgess-Manning Co.**, Penn Instruments Div., Dept. 33, 4110 Haverford Ave., Philadelphia 4, Pa.

For more details circle NED-556 A7 on enclosed inquiry slip

FLOOR MACHINE scrubs, rinses, picks up, polishes

With this Lawlorette all-purpose floor machine, one man can scrub, flood rinse, pick up from and polish comparatively small floor areas. Only 17 in. wide, machine can be turned easily in narrow aisles. Centralized controls include pushbutton to release water, pull-lever to lower and raise brush and a foot-actuated squeegee. Water pick-up tank lifts out of machine for easy emptying and can also be used to fill solution tank. Machine has white rubber bumper and tires, and operates on 15-amp fused line, 110-v ac. Direct current models are available. Made by **S. C. Lawlor Co.**, 131 N. Aberdeen St., Chicago 7, Ill.

For more details circle NED-557 A7 on enclosed inquiry slip

Fluid Drives

American Blower Corp.—Gyrol fluid drives for ½ to 25-hp applications are detailed and their operating principle and advantages explained in 16-page bulletin 9119. Performance and torque curves for each of three drive types available are included, as are selection tables. Illustrations and specifications of all units are presented.

For more details circle NED-558 A7 on enclosed inquiry slip

Monroe FOLDING BANQUET TABLES

WITH COMPLETELY FINISHED TOPS Can Be Used Without Tablecloths

Write today for new catalog showing 58 models and sizes of Monroe Folding Tables.

Monroe Folding Tables, rigidly built yet very attractive, are designed for institutional use. May be used with or without table cloths, as desired. Also available in Formica and Ornacel special color and pattern types. Write for catalog with direct factory prices and discounts to industry, religious and educational institutions, clubs, lodges, etc.

MONROE TRUCKS for Folding Tables and Chairs

Transport and store your folding tables and chairs the easy, modern way on MONROE Trucks. Construction of Transport-Storage Trucks permits maneuverability in limited space. See Catalog.

MONROE Truck No. T58

Complete Line of Folding Chairs

THE MONROE CO. 950 CHURCH ST. COLFAX, IOWA

For more details circle NED-559 A7 on enclosed inquiry slip

YOU GET 6-WAY SAVINGS with Sier-Bath FLEXIBLE GEAR COUPLINGS

1 LOWER INITIAL COSTS Averaging 21% below other brands.

2 SPACE AND WEIGHT SAVINGS As much as 40% smaller than flange and bolt types! Lighter! Lower inertia!

3 HIGHER LOAD CAPACITIES in all types and sizes. From 4 to 4500 hp/100 rpm. Sizes 7/8 to 12.

4 STRONGER, LONGER LASTING 90,000 lbs. tensile strength and leakproof neoprene seals.

5 ASSEMBLY COST SAVINGS So simple a screwdriver is all you need. No special tools required!

6 EQUIPMENT WEAR SAVINGS Flexibility takes up misalignment, saving on motor wear. No binding, no burnouts.

Fast delivery on all types. Send for Catalog C-4. Yours for the asking.

Sier-Bath GEAR and PUMP CO., INC.

9242 Hudson Blvd., North Bergen, N.J.

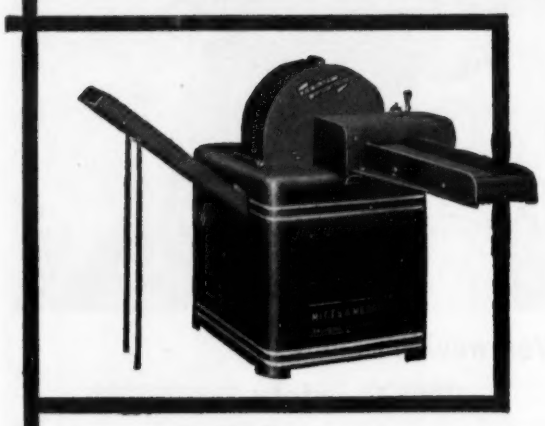
Founded 1905 Member A.G.M.A.

Simpler! only 7 parts

Smaller and Lighter! ⅔ Usual Size ½ Usual Weight

For more details circle NED-560 A7 on enclosed inquiry slip

M&M AIR-FLUFF PAPER SHREDDER



The Air-Fluff Paper Shredder is an outstanding machine for use in the commercial manufacture of paper excelsior. Blueprints, letters and confidential records are speedily, safely and efficiently destroyed. Built in 3 sizes ranging in capacity from 200 to 2500 pounds per hour. Each machine can be adjusted to cut widths of ⅛", 3/16", ¼", or ⅜". Write for descriptive literature.

MITTS & MERRILL

1000 South Water St. • Saginaw, Michigan 77

For more details circle NED-561 A7 on enclosed inquiry slip

NEW FORD solid carbide END MILLS

WHY THEY DO YOUR JOB BETTER

All Ford end mills are *precision machine ground from the solid* . . . which insures uniformly accurate flute form and a constant relief angle. On your job, that means more parts per grind. So you save labor on grinding and tool changing. You save on replacements. You save on downtime. What's more, there's less time per part, more parts per hour, fewer rejects. Available in 11 types . . . all standard, and *available*.

BULLETIN 510 FREE AND LATEST PRICES . . . WRITE TODAY

Rotary FORD Tools M. A. FORD MFG. CO., INC.

721 W. River St., Davenport, Iowa

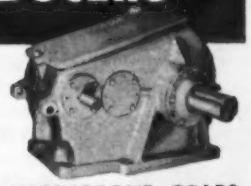
Precision manufacturer of H. S. S. and Carbide Rotary Files and Cutters. Countersinks • Grinding Burrs • Special Tools • Factory Regrinding

For more details circle NED-562 A7 on enclosed inquiry slip

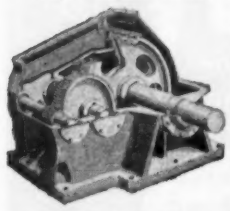
FOR Top Performance AT Sensible Prices

USE ALTEN SPEED REDUCERS

IMMEDIATE DELIVERY ON STANDARD MODELS FROM STOCK . . .



Choice OF HELICAL OR HERRINGBONE GEARS WITH CAST IRON HOUSINGS



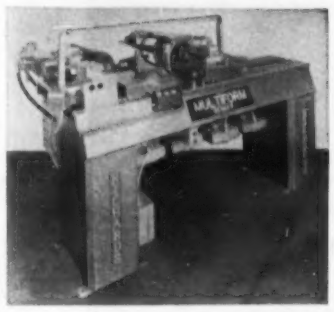
Alten Speed Reducers have proved their stamina in use for years in the petroleum industry. Now available in the right capacity, ratio, reduction, speed and drive for your every industrial use. Alten engineers available for advice and consultation on any speed reduction application. Write.

Designers & Builders of Equipment for Industry Since 1889

ALTEN Foundry & Machine Works, Inc. LANCASTER, OHIO

▲ For more details circle NED-563 A7 on enclosed inquiry slip ▲

DOUBLE-END BENDER
produces multi-angled channels



Operated by a 10-hp motor, the Multiform double-end bender is capable of producing multi-angled channels in widths adjustable from 2 to 6 ft. It incorporates Fauver hydraulic equipment, a Dudco pump and Double A valves. Automatic production cycle of 15 seconds is actuated by pushbutton controls. Machine can be equipped for double-end bending of any type or shape of material. Made by **J. A. Richards Co.**, Corner Myrtle & Pitcher Sts., Kalamazoo, Mich.

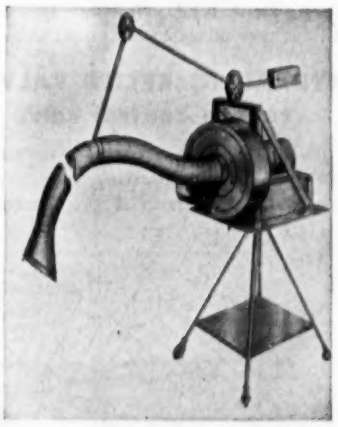
▲ For more details circle NED-566 A7 on enclosed inquiry slip ▲

PHOTOCOPY MACHINE
makes exact copy in 30 seconds

Only 30 seconds is required to make an exact photocopy of any printed or written material with the Cub combination printer and processor. The 25-lb photocopying machine copies material up to 9 in. wide and of any length. It can be operated after a few minutes of instruction. Light source is a rheostat controlled 18-in. fluorescent tube. An Auto-Feed is extra. Made by **Hunter Photo Copyist, Inc.**, 595 Spencer St., Syracuse, N. Y.

▲ For more details circle NED-567 A7 on enclosed inquiry slip ▲

FUME EXHAUSTER
moves 800 or more cfm of air



Gasoline or electrically driven blower on model W-200-50 fume exhausters is capable of moving 800 or more cfm of air from the fume generating source. Stand type unit is mounted on casters. It has an 8-ft long stainless steel hose of 4, 6 or 8-in. diameter and a counterbalance for universal hose positioning. Made by **Engwald Corp.**, Dept. NED, 357 Lafayette Ave., Brooklyn 38, N. Y.

▲ For more details circle NED-568 A7 on enclosed inquiry slip ▲

AN EVEN BETTER

DIMENSIONAIR

WITH THE SAME BASIC, NO-DRIFT SYSTEM

Only air gage with built-in accuracy that enables use of one master.

New important refinements have been built into the Dimensionair.
Most plant air lines were not intended for use with precision instruments. Hence, the Dimensionair is now made EVEN MORE IMMUNE to unclean air lines and variations in air pressures.
Zero adjustment is positive and fast. No resetting required.
One third smaller size makes gage EASIER TO HANDLE and more adaptable for use on machine tools.
All components and connections attached to one-piece cover are exposed when cover is removed. Easy servicing if necessary.
Dimensionair provides you with constant accuracy and GREATER DEPENDABILITY, adaptability and service. Why don't YOU try it? Write or call us or our nearest office.

FEDERAL PRODUCTS CORPORATION
7171 Eddy Street • Providence 1, R. I.

Ask FEDERAL First

FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic — for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-569 A7 on enclosed inquiry slip ▲

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Standards and Specials for All Applications

When you need telephone type relays, Comar is the place to get them. We have the engineering know-how and manufacturing facilities to serve you best. Send for details.

Comar ELECTRIC COMPANY
3349 ADDISON STREET, CHICAGO 18, ILLINOIS

RELAYS · SOLENOIDS · COILS · SWITCHES · HERMETIC SEALING

▲ For more details circle NED-564 A7 on enclosed inquiry slip ▲

Guaranteed GREATER ACCURACY than any other Variable Speed Drive

GET Graham variable speed drives

- **ULTIMATE in SIMPLICITY and COMPACTNESS**—only the Graham is a straight line extension of a standard induction motor—or available without motor.
- **UNLIMITED SPEED RANGE**—from any desired maximum speed to zero, including reverse if wanted without stopping motor.
- **UNMATCHED ACCURACY**—of speed setting and resetting and speed holding.
- **NO PERISHABLE PARTS**—such as belts or tubes, requiring periodic replacement.
- **PROVED PERFORMANCE**—Twenty years satisfactory use as standard equipment.
- **LOW COST**—a better job for less money.

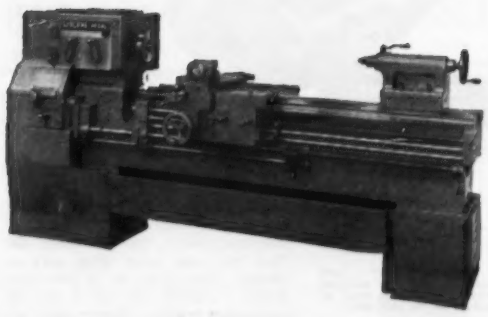
GRAHAM TRANSMISSIONS, INC.
Dept. NED, Menomonee Falls, Wis.

GET Graham most reliable variable speed drive made

ENGINEERED and RATED for 'ROUND the CLOCK SERVICE

▲ For more details circle NED-570 A7 on enclosed inquiry slip ▲

NEW LEBLOND SLIDING BED GAP REGAL



Capacity on a sliding scale

Take advantage of large lathe capacity and flexibility with the inexpensive Regal 17"/28" SBG lathe. A 17" lathe quickly becomes a 28" by sliding the upper bedway from the headstock—providing 35 inches of swing. Center distance can be increased over 50%.

Performance to match capacity. 12-speed headstock with 3-bearing spindle for power with precision. Wide carriage bridge riding on hardened and ground bedways for staunch tool support. 56 speeds or threads easily selected. Both feed rod and leadscrew for enduring thread-chasing accuracy.

The new Regal SBG is also available in 19"/28" size. Put it to work for you. See your nearby LeBlond distributor or write for Bulletin-RG-210-R.

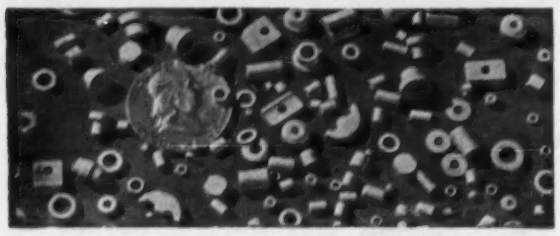
LeBLOND of Cincinnati

. . . cut with confidence

THE R. K. LeBLOND MACHINE TOOL COMPANY, Cincinnati 8, Ohio

World's Largest Builder of a Complete Line of Lathes for More than 70 Years

▲ For more details circle NED-565 A7 on enclosed inquiry slip ▲



when you need small parts like these*...

The fabrication of precision parts of *industrial ceramics* is a specialized job . . . and STAR specializes in it!

There is practically no limit to the variety of shapes we can turn out to meet your simple or intricate specifications precisely . . . economically.

More than 25 automatic presses, operating 24 hours a day are available to turn out ferrules, grommets, eyelets, rings, cups, shells, and millions of other close tolerance parts made from Star Ceramics. This means lower cost to you . . . faster service to meet busy production schedules.

Write for complete details, a generous assortment of samples *and our NEW 20-page catalog.*

* This includes the half dollar (and more) in production savings!

the STAR porcelain company 50 Muirhead Avenue, Trenton 9, N.J.

California Representatives:
Edwin E. Starr, 4101 Rhodes Ave., North Hollywood, Calif. STanley 7-5879.
Thermo Materials Inc., 44 Encino Avenue, Palo Alto, Calif. DAvenport 3-7991.

For more details circle NED-571 A7 on enclosed inquiry slip

need a low-cost supplementary air supply?

Before you buy additional high-cost, high-pressure equipment
If your present high-pressure supply is overtaxed
Even if your supply is not overloaded

SURVEY YOUR PRESENT—AND FUTURE—USES OF AIR!

You will save your company money . . . production headaches . . . add extra measures of efficiency to every installation, by investigating the proved economies of *low-maintenance, low-cost* Lamson Billmyre Centrifugal Blowers and Exhausters.

From 100 to 25,000 C.F.M., from ½ to 500 H.P., in single or multi-stage design, Lamson Blowers and Exhausters deliver the right amount of clean, dry air or gas—without pulsation. Pressure or vacuum always remains nearly constant at all capacities . . . with H.P. proportional to actual volume delivered. Shipments are rapid . . . installation is on-the-spot.

And remember, Lamson Blowers and Exhausters are backed by over 50 years of sound, practical engineering, time-proved design and skilled workmanship.

FREE LITERATURE!

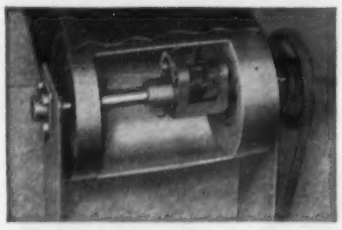
Write for your copy of Bulletin B-7 describing the advantages of Lamson Billmyre Blowers and Exhausters

LAMSON

LAMSON CORPORATION
171 Lamson St., Syracuse 1, N. Y.
Plants in Syracuse and San Francisco
Offices in Principal Cities

For more details circle NED-572 A7 on enclosed inquiry slip

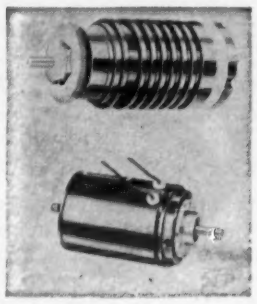
CONVEYOR DRIVE PULLEY
gear reducer is inside pulley



Conventional conveyor drives and reducers which require chain or belt can be replaced with this Concentro-Drive belt conveyor drive pulley. Unit contains gear reduction unit inside pulley where it is out of the way and lubricated for life. Thus, equipment can be narrow in width and without overhang on the drive side. Input shaft is concentric with pulley and drives through the dead shaft. Variable speeds are easily obtained by mounting motor equipped with variable pitch pulley on sliding base. Made by **Bunke-Musser, Inc.**, Dept. 129, Jackson Center, O.

For more details circle NED-573 A7 on enclosed inquiry slip

MAGNETIC CLUTCHES
miniature solenoid-operated units

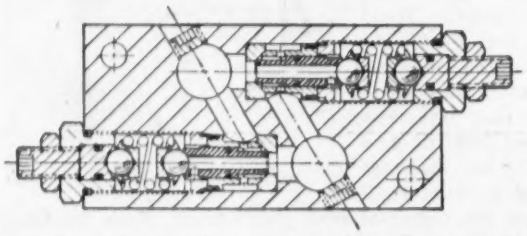


Electrical control of rotary mechanical functions, such as remote setting or adjusting of potentiometers, synchros or other rotating components, are applications for two miniature magnetic clutches. Use as controlled loads or stops is also possible. Model 583 measures 1¼ in. diameter by 2 11/16 in. long and has a maximum combined braking and clutching torque of 8 oz-in. Model 543 is 1¾ in. in diameter by 4⅛-in. long and has combined torque of 35 oz-in. Both clutches are solenoid operated dry disk type requiring no slip rings. They are designed for high cycling rates and operate at 24 and 48 v. Made by **Helipot Corp.**, Dept. NED, Newport Beach, Calif.

For more details circle NED-574 A7 on enclosed inquiry slip

HYDRAULIC RELIEF VALVES
relieve control valve shock pressure

This relief valve protects hydraulic components and systems from excessive pressures when control valves are suddenly reversed or blocked, or when an ex-



ternal load is applied to a motor. Offered in either guided piston or differential piston types, unit consists of two adjustable relief valves integrated onto one body. Each valve relieves in one direction and can be adjusted to the same or different pressures. When oil pressure exceeds setting, oil is relieved from line and directed into other line, eliminating the need for a connection to system reservoir. Made by **Fluid Controls, Inc.**, Dept. B, 1284 N. Center St., Mentor, O.

For more details circle NED-575 A7 on enclosed inquiry slip

OUTDOOR FORK LIFT TRUCK
handles 8000 lb, has power features

Power brakes, power steering and fingertip directional control are standard equipment on the Yardlift 8024 fork lift truck, an 8000-lb capacity unit with pneumatic tires for outdoor use. It has four speeds in each direction and will travel 16½ mph forward, 16 mph reverse and climb a 21-per cent grade when loaded. Length is 132 in. and width is 77 in. Hydraulic lifting speed is 42 fpm fully loaded. Power is furnished by a 6-cylinder Continental gasoline engine of 209 cu in. displacement. Made by **Clark Equipment Co.**, Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

For more details circle NED-576 A7 on enclosed inquiry slip

HERE'S IMPORTANT GEAR NEWS!

See how you can get increased gear life and greater capacity in less space . . . with the hardest, toughest, most accurate industrial gears made . . . and reduce costs at the same time!

Get More

Send for this free folder now!

FOOTE BROS. GEAR AND MACHINE CORPORATION
4545 S. Western Blvd., Chicago 9, Ill.
Dept. NE

FOOTE BROS.

For more details circle NED-577 A7 on enclosed inquiry slip

Combines fine engineering *and* economy!

...new FOXBORO Pressure Transmitter

- Scale easily readable at 20 ft.
- Standard time-proved component parts
- Simple calibration "on location"
- Compact integral instrument

The new Foxboro M/44 Pneumatic Pressure Transmitter gives you a unique combination of fine engineering and economy. It's a compact, integral instrument . . . no attachments or "makeshifts." Utilizing standard, performance-proved Foxboro parts throughout, it assures you not only top performance, but easier stocking and servicing as well. "Convenience-design" makes calibration in the field a cinch. Drawn-steel, weatherproof, air-purged case with tough polyester plastic cover. A neat, high-efficiency, low-cost instrument for centralized operation or control. All standard ranges. Write for full details. The Foxboro Company, 661 Norfolk St., Foxboro, Mass.

FOXBORO REG. U. S. PAT. OFF. INSTRUMENTATION

For more details circle NED-578 A7 on enclosed inquiry slip

THERE'S NOTHING ELSE LIKE FIBRE-METAL'S **NEW...FULL VIEW**

#55 Sologoggle™

A "Picture Window" View and Maximum Safety for BRAZING, CUTTING, GAS WELDING, GRINDING and similar hazards.

COOL, LIGHT, COMFORTABLE

No. F-590 "Solo goggle" . . . with headrest for snug or ventilated off-the-face wear. Wide Range Adjustment fits any head size.

INSIDE VIEW of "Solo goggle" . . . showing patented (Designed for Safety) positive retention spring. Lens easy to replace.

This NEW single-cup "Solo goggle" fits easily over Spectacle goggles and personal prescription glasses *for extra protection.* Molded of light, rugged plastic, *"Solo goggle"* is flame resistant and non-irritating to the skin. A *patented spring retainer* makes the filter lens and cover glass easy to change. The spring is of one-piece design . . . SAFE because it has no sharp ends or edges. "Solo goggle" affords a full, unobstructed view of work! *Order this newest and best eye protection NOW from your Safety and Welding Distributor!*

ASK YOUR SAFETY & WELDING SUPPLY DISTRIBUTOR for Bulletin #53, or WRITE US.

The FIBRE-METAL Products Company CHESTER PENNA.

For more details circle NED-579 A7 on enclosed inquiry slip

Markal HEAT-PROOF COATINGS

Brush MARKAL Coating on piece of metal and apply direct flame of torch until metal is red hot. *Protective coating has not been impaired.*

MARKAL Coatings give you complete protection against steam, corrosion, scaling, oxidation at extreme heat—temperatures up to 2100°F.

Write for complete technical information and free sample . . . state work conditions.

Markal COMPANY

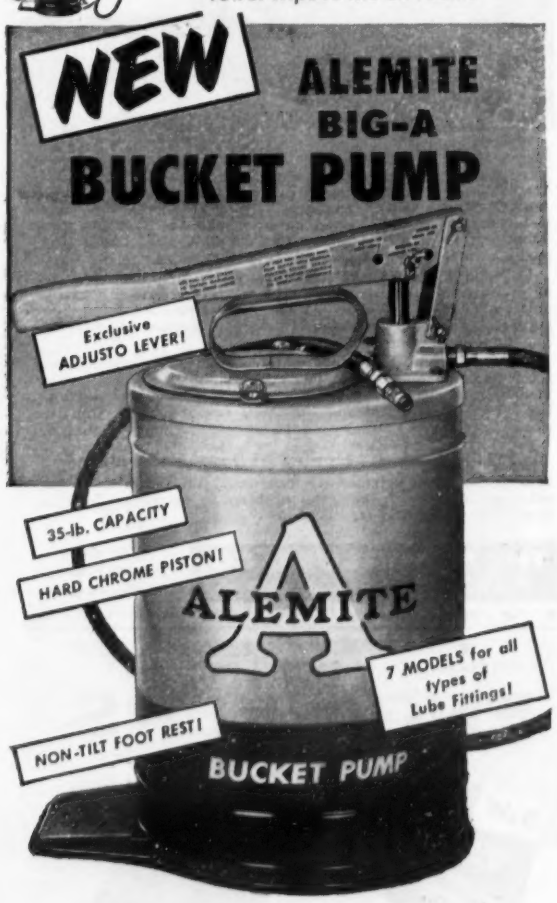
3053 West Carroll Avenue • Chicago 12, Illinois

The Mark of Quality Protection—MARKAL!

For more details circle NED-580 A7 on enclosed inquiry slip

LUBRICATES Hundreds of Bearings

with less refills . . . fewer trips to the oil room!



HANDLES EITHER OIL OR GREASE!

ADJUSTO LEVER can be adjusted to three positions for—

Light or heavy lubricants.
Cold weather.
Pressures from 2,500 to 5,000 lbs.
Maximum ease of operation.

EASIEST TO CARRY—Oval shape prevents bucket from bumping leg!

EASIEST TO FILL—Rugged cover is gasket-sealed . . . opens in a jiffy for fast filling!

EASIEST TO SERVICE—One wrench disassembles entire unit!

Write for free catalog today!

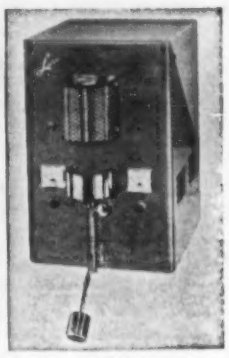
STEWART SW WARNER

ALEMITE

Dept. L-17, 1850 Diversey Parkway
Chicago 14, Illinois

For more details circle NED-581 A7 on enclosed inquiry slip

INDUCTION FURNACES analyze hydrogen in titanium metals



Analysis of hydrogen in wide range of titanium and zirconium metals, as well as in metal hydrides can be done successfully in series 500 induction furnaces. Procedure is one of burning the sample in a stream of oxygen to convert the hydrogen to water, which is weighed in gravimetric bulb. Standard tank oxygen and a purification unit are used, and sample is heated in molten iron bath. Sample weights up to 10 grams of solids, drillings or chips have been used. Samples can be added continuously without opening the furnace, and temperatures may be regulated to over 3000° F. Total analysis time is 5 to 10 minutes. Made by **Laboratory Equipment Corp.**, St. Joseph 13, Mich.

For more details circle NED-582 A7 on enclosed inquiry slip

DRUM RACK capacity is eight drums

Efficient storage of 55-gal drums in a horizontal position is possible with the Rak - A - Tier drum rack. Holding eight drums, it is 10 ft 2 in. high, 3 ft deep and 3 ft 4 in. high. Price is $79.60. Racks for larger numbers of drums can be specified. Made by **Artco Corp.**, Dept. D, Hatfield, Pa.

For more details circle NED-583 A7 on enclosed inquiry slip

HAND FORK LIFT TRUCK for 30-48-in. wide skids, pallets

Work of skid lift, pallet and high lift trucks can be done by the model 57 multipurpose hand hydraulic straddle fork lift truck. Quickly - adjustable straddle legs accommodate pallets or skids from 30 to 48 in. wide and up to 48 in. long. Forks can be raised up to 12 in., with lifts up to 96 in. optional. Skidded, palletized, strapped and unitized loads are handled with equal facility. Made by **Langley Mfg. Co.**, 940 Cambridge St., Cambridge, Mass.

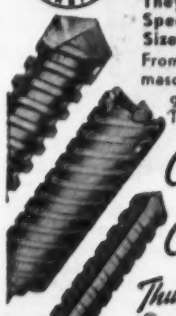
For more details circle NED-584 A7 on enclosed inquiry slip

Follow the example of masonry bit users who use the WORLD'S ONLY COMPLETE LINE OF CARBIDE-TIPPED MASONRY BITS — For every drilling requirement — to cut time and labor costs —

Switch to *New England* CARBIDE-TIPPED MASONRY BITS

They Make Tough Drilling Jobs Easy! — Speed Work! — Cut Labor Costs! Drill Any Size & Depth of Hole!

From fast rotary drilling in soft and medium hard masonry to the toughest jobs in hard concrete or granite — there's a New England Carbide-Tipped MASONRY BIT for every job.



Cyclo-twist ® **ROTARY BITS** For ROTARY DRILLING of Medium Hard Masonry — Sizes 7/64" to 1½"

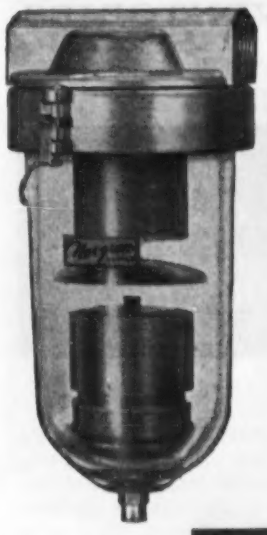
Cyclo-Core ® **ROTARY BITS** For ROTARY DRILLING of Hard Masonry including Hard Concrete and Vitreous Tile — Sizes ¼" to 6"

Thunder-twist ® **HAMMER BITS** For One Man HAMMER DRILLING of all Hard Masonry and Granite — Sizes 3/16" to 1¼"

DISCOVER THE "EASY" WAY FOR EVERY DRILLING JOB! Write for our "WHAT and HOW" MANUAL It's FREE and very helpful.

New England CARBIDE TOOL CO., INC.
55V Commercial Street • Medford, Mass.

For more details circle NED-585 A7 on enclosed inquiry slip



NEW ADVANCED LINE OF *Norgren* AIR LINE FILTERS

MORE COMPLETE REMOVAL OF LIQUIDS

MINIMUM PRESSURE DROP

Write for NEW CATALOG

C. A. NORGREN CO.

3405 SOUTH ELATI STREET • ENGLEWOOD, COLORADO

For more details circle NED-586 A7 on enclosed inquiry slip

New catalog simplifies selection and ordering of flexible metal hose and tubing

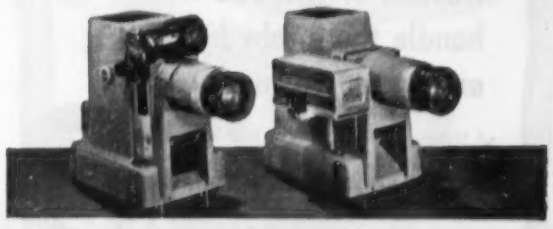
Describes basic types: corrugated, formed stripwound. Suggests correct installation methods. Information on: dimensions, weights, bending diameters, pressures, etc. Description and suggested uses of varied types in many metals: bronze, brass, aluminum, Monel, steel and stainless steel. Specifications on end fittings. Write for Catalog C-560. The American Brass Company, American Metal Hose Division, Waterbury 20, Conn. In Canada: The Canadian Fairbanks-Morse Company, Ltd.

WHEREVER CONNECTORS MUST MOVE

AMERICAN flexible metal hose and tubing an **ANACONDA**® product

For more details circle NED-587 A7 on enclosed inquiry slip

KODASLIDE SIGNET PROJECTORS have precision movements, handy controls, extra brightness, to help you show your slides and filmstrips with full effectiveness.



Slides and filmstrips work their *hardest* with these easy-to-use, versatile projectors

Make your slides and filmstrips work to full effect—show them with a Kodaslide Signet Projector.

Frames advance smoothly, and fast as a flick—even with cut or damaged film—thanks to the new, enclosed, nylon-geared Geneva mechanism. Sprocket teeth are visible for fast threading. Rapid rewind device.

Convenient controls let you concentrate comfortably on your *presentation*—not your projector. Special lenses and reflectors help deliver brilliant, sparkling pictures. Impeller-type blowers, aluminum panels, thick heat-absorbing glass assure cool, quiet performance. And you can convert from filmstrips to slides—and back—in seconds!

Signets are available in either 300- or 500-watt models, with lightweight carrying cases, if you wish.

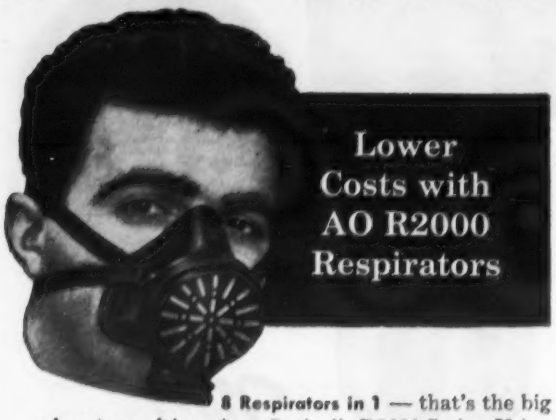
Get full details—write for free pamphlet

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

Kodak

For more details circle NED-588 A7 on enclosed inquiry slip

SMALLER INVENTORIES



8 Respirators in 1 — that's the big advantage of American Optical's R2000 Series. Using just one face piece, quick simple interchange of cartridges and filters gives top quality but low cost protection against a wide variety of dusts singly or in combination (pneumoconiosis-producing, nuisance, and toxic), and organic vapors, acid gases, combined organic vapors and acid gases, ammonia and other alkali gases. For complete details, write for illustrated bulletin or ask your American Optical Safety Products Representative.

American Optical COMPANY SAFETY PRODUCTS DIVISION — SOUTHBRIDGE, MASS. BRANCHES IN PRINCIPAL CITIES

For more details circle NED-589 A7 on enclosed inquiry slip

Resonant Reed Design Simplifies Transmission of a Number of Control Signals Over a Single Circuit

Each carbon-steel or alloy reed is tuned to vibrate to a signal frequency within a narrow range. Several Frahm® Resonant Reed Relays may be operated simultaneously on a single control circuit by employing an equal number of source generators designed so that no operating frequencies overlap. In the 200-500 cycle range 16 channels can be used on one circuit without interference. Frahm Relays may be used with all types of communication circuits including radio and carrier systems as well as wire circuits. For data on Frahm Oscillators request Bulletin 34-D.

B-905-RI

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

For more details circle NED-590 A7 on enclosed inquiry slip

Flexible SPIRATUBE will handle these jobs better... and save you money, too!

- ✓ Materials Handling
- ✓ Ventilation
- ✓ Exhaust and Fume Removal
- ✓ Dust Removal
- ✓ Blowing
- ✓ Aircraft Applications

Spiratube®, a neoprene-coated, wire-reinforced fabric ducting, is designed to carry air, other gases, many solids and liquids under pressure, suction or gravity. It is available in diameters up to 30" and is extremely flexible, light in weight, easily retractable and portable.

A Spiratube system can be installed in a very short time, since flexible Spiratube bends easily around obstructions or corners, without loss of efficiency.

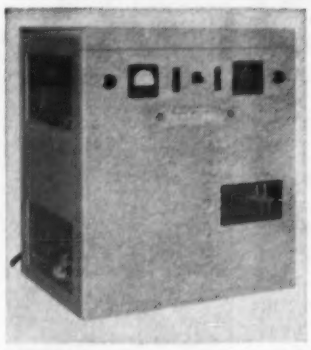
This Bulletin shows you how SPIRATUBE will reduce production costs Send for it today. Dept. 41

See us at the Plant Maintenance Show, Booth 1026

Flexible Tubing CORPORATION
Guilford, Connecticut • Los Angeles 64, California

For more details circle NED-591 A7 on enclosed inquiry slip

INDUCTION HEATER
for soldering, brazing, hardening

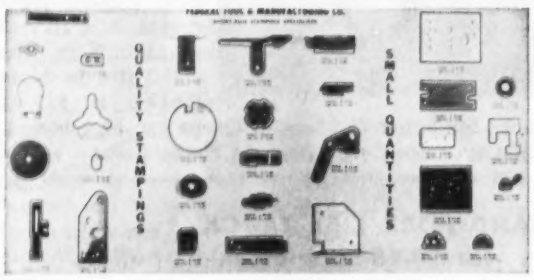


Built-in output transformer of model L6E induction heater matches a variety of load shapes and sizes, and built-in automatic recycling heat cycle timer provides a wide choice of ranges. The bench mounted 2-kw unit has a circuit breaker on both line and high voltage circuits and an outlet for interconnection of remote switches, turntables or other fixture interlocks. Measuring 18 x 25 x 28 in., the 200-lb unit is adaptable for soldering, brazing, hardening and annealing. Interlock switches are installed on all access doors. Watercooled coil and transformer circuits and a forced air cooling system are incorporated. Made by **Reeve Electronics, Inc.**, 621 Lake St., Chicago 6, Ill.

For more details circle NED-592 A7 on enclosed inquiry slip

STAMPINGS DISPLAY BOARD
loaned to short-run stampings users

Actual samples of typical short-run stampings are mounted on this display board developed to provide factual information to companies using or considering the use of this type of part. Tooling and running costs are listed together with samples of copper, brass, aluminum, steel and plastic stampings. Display boards will be loaned free to qualified department heads of manufacturers using stampings in their manufacturing processes. Write to **Federal Tool & Mfg. Co.**, Dept. NED, 3600 Alabama Ave., Minneapolis 16, Minn.



For more details circle NED-593 A7 on enclosed inquiry slip

Chemical Process Instruments

Leeds & Northrup Co.—Primary elements for detecting changes in temperature, pH, gas concentrations and other operating variables are highlighted in 12-page brochure "Prelude to Tomorrow's Automation." Other chemical process instruments covered are Speedomax loggers, scanners, recorders, gas analyzers and complete process control systems.

For more details circle NED-594 A7 on enclosed inquiry slip

Here's an Easier way to handle your Blueprints!

This new, wall-type

Martin Sheet File System

enables you to work with a large number of blueprints more efficiently and neatly because each sheet hangs flat. When not in use, the sheet hangers fold flat against the wall, resulting in a minimum of storage space. A unique feature is the new spring clips which hold sheets firmly and permit quick and easy removal of sheets at any time. For complete information on how a Martin File System can solve your blueprint problems, Write to Dept. NED.

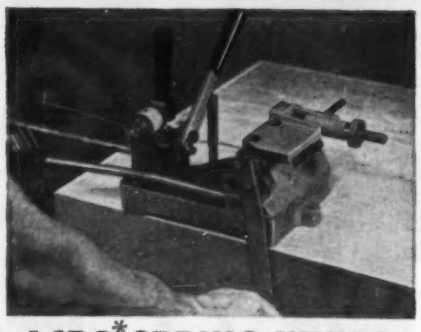
Units are available in 2 sizes, Model #30 at $49.50 holds sheets up to 30" wide, and Model #42 at $63.80 holds sheets up to 42" wide. Both sizes have a gray hammertone finish.

Fort Pitt Fixture Company
2056 W. LIBERTY AVE. PITTSBURGH 26, PA.

For more details circle NED-595 A7 on enclosed inquiry slip

MAKE SPRINGS IN SECONDS!

SAVE COSTLY SPECIAL ORDERS



NEW DI-ACRO* SPRING WINDER

This unique machine eliminates costly special spring orders, saves valuable waiting time. Winds flat, torsion, compression and extension springs to 1½" O.D. Handles round, flat and rectangular wire to ⅛" dimension. Exclusive features in the hand operated Di-Acro Spring Winder assure accurate tension and fast operation without special experience or skill.

FREE ENGINEERING SERVICE

Send us your spring forming problems—samples or dimension sketches—together with sufficient test material, and let us wind some sample springs for you free of charge. No obligation.

32-Page Catalog gives complete details on all Di-Acro Precision Machines—Spring Winders, Benders, Brakes, Shears, Punch Presses, Notchers, Rod Parters, Rollers, Press Brakes.

*Pronounced Die-ack-ro

O'NEIL-IRWIN MFG. CO.
354 8th Ave. • Lake City, Minn.

For more details circle NED-596 A7 on enclosed inquiry slip

The Best Decals Made are Meyercord Decals

MEYERCORD *Nameplate* DECALS Help SELL Your Product

Your trademark and brand names are symbols of consistent high product quality. When prominently and appealingly displayed on your products, they are confidence-building selling assets that improve your competitive position in today's brand-conscious market.

Meyercord Nameplate Decals identify and help move all types of products faster with trademarks that are attractive, colorful, uniform, legible, and durable. Meyercord Decal Nameplates are applied speedily and economically on your present assembly-line . . . for long or short runs.

Our staff of skilled artists, photographers, typographers and color experts are ready to help you establish a strong selling identification for your product . . . at minimum cost per unit. Let a highly-trained Meyercord Decal engineer show you how to add sales appeal to your product, while cutting nameplate costs.

FREE! "Mark-It" Manual of Decal Nameplates

Send today, on your company letterhead, for this valuable full-color guide to every industrial problem in marking, identification, instruction, and information.

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For more details circle NED-597 A7 on enclosed inquiry slip

COMPILED AT THE REQUEST OF

ENGINEERS

WRITE FOR THIS LATEST B&W CROLOY BULLETIN

Includes condensed data on Seamless Welding Fittings and Seamless Pipe and Tubing for high pressure service. Covers mechanical properties, creep strength, physical properties, welding, heat treatment, and working pressures. A necessary part of your reference material when concerned with selection of a matched piping system. Send today!

THE BABCOCK & WILCOX COMPANY
Tubular Products Division — Fittings Department
3839 West Burnham Street • Milwaukee 46, Wisconsin

THE *NATURAL* SOURCE FOR ALLOY FITTINGS

B&W TUBULAR PRODUCTS DIVISION

FLI—7904

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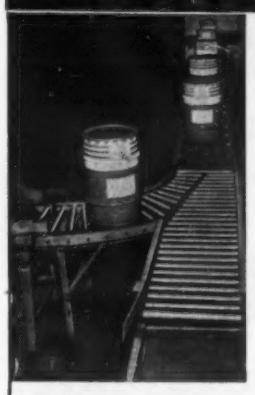

offer!

You eliminate manual handling between production operations...save space by keeping material off the floor ...coordinate men, material and machines...increase efficiency with less manual effort when you use FERGUSON gravity and power conveyors. That has been the experience of companies everywhere in many different industries using these conveyors.

Whether you're building a new plant, renovating your present plant or just want more efficient materials handling, include FERGUSON CONVEYORS in your plans. You'll like the way they cut the cost of doing business.

Write, wire or call for additional details.

HARRY J. Ferguson COMPANY

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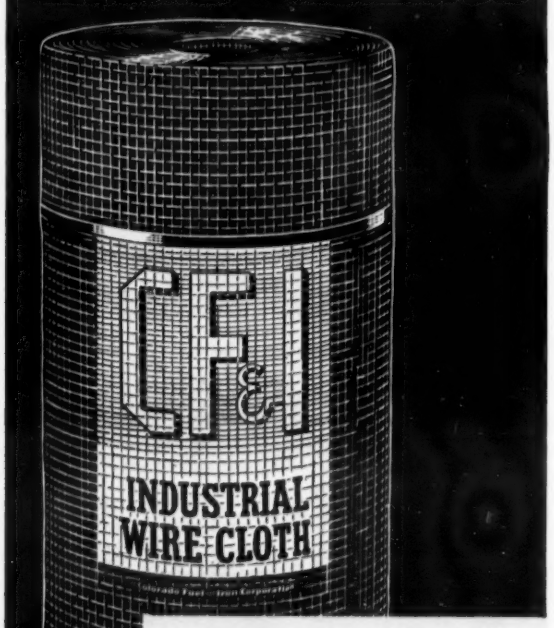

If you use industrial wire cloth, CF&I can fill your needs. For CF&I is equipped to make this product in any metal, mesh or weave. Popular types are stocked in large quantities by CF&I . . . or—if yours is an unusual application—your industrial wire cloth can be quickly produced to *your exact* specifications.

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CF&I offers you a new, free, information-packed book on industrial wire cloth. It gives you necessary information on mesh and wire sizes . . . metals and coatings . . . descriptions of special cloths . . . wire gauge conversion tables . . . U. S. Standard Test Sieve specifications . . . complete ordering information.

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THE COLORADO FUEL AND IRON CORPORATION—Albuquerque • Amarillo • Billings Boise • Butte • Casper • Denver • El Paso • Ft. Worth • Houston • Lincoln (Neb.) • Los Angeles • Oakland • Oklahoma City • Phoenix • Portland • Pueblo • Salt Lake City San Antonio • San Francisco • Seattle • Spokane • Wichita

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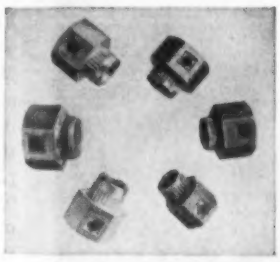
CF&I OFFICES IN CANADA: Montreal • Toronto 4459
CANADIAN REPRESENTATIVES AT: Edmonton • Vancouver • Winnipeg

For more details circle NED-600 A7 on enclosed inquiry slip

SELF-LOCKING NUTS
made of ferrous, nonferrous metals



Expanded line of clinch nuts employing the Nylok self-locking principle now includes ferrous and nonferrous sizes down to No. 0. Nuts cannot shake loose under severe vibration and are usable from −70 to 250° F. They meet torque requirements of AN-N-5 and Signal Corps clinch nut requirements. Resilient pellet of DuPont Zytel nylon is permanently embedded in each nut and, when engaged, is compressed into the threads. This spring-like wedging action grips threads tightly. Insertion can be from either side. Made by **Nylok Corp.**, Dept. CB, 611 Industrial Ave., Paramus, N. J.

For more details circle NED-601 A7 on enclosed inquiry slip

VACUUM-LIFTING DEVICE
hand model lifts up to 200 lb

Bulky, hard-to-handle materials such as sheet metal, glass, plasterboard and plywood are easily lifted and moved with the Air-Lift portable hand vacuum-lifting device. Capable of lifting up to 200 lb, the device creates a vacuum as soon as it is placed on an object. It remains effectively sealed by means of neoprene gasket. To release object, operator simply presses release valve. The neat, secure air seal will not harm or mar lifted object. Made by **International Staple & Machine Co.**, Materials Handling Div., 802 E. Herrin St., Herrin, Ill.

For more details circle NED-602 A7 on enclosed inquiry slip

TOOL HOLDERS
use throw-away carbide blanks

More than 90 styles and sizes are available in line of tool holders which use throw-away cemented tungsten carbide blanks in machining of metal and other materials. Carbide tips are easily indexed to new cutting surface while holding the tool location. Gripping design exerts cutting pressure in same direction as clamp screw. This screw is accessible from both top and bottom of holder, advantageous when using a rear tool carriage. Tool holders are cadmium plated and have replaceable carbide chip breakers. Made by **Allegheny Ludlum Steel Corp.**, Carmet Div., Dept. NED, Ferndale, Mich.

For more details circle NED-603 A7 on enclosed inquiry slip

LOW COST INDUSTRIAL INCINERATOR

New 10 bushel capacity burner provides safe and efficient outdoor refuse disposal at low cost. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing bits of paper. Intense combustion burns damp, green or dry refuse to fine ash in any weather. Minimizes smoke and smell. Needs no watching. Won't blow over. Ends refuse hauling and fire hazards. Safe for use within 10 feet from out buildings. Satisfaction guaranteed. Only $79.50—F.O.B. Cleveland. Immediate shipment. Send purchase order, today.

SPECIFICATIONS

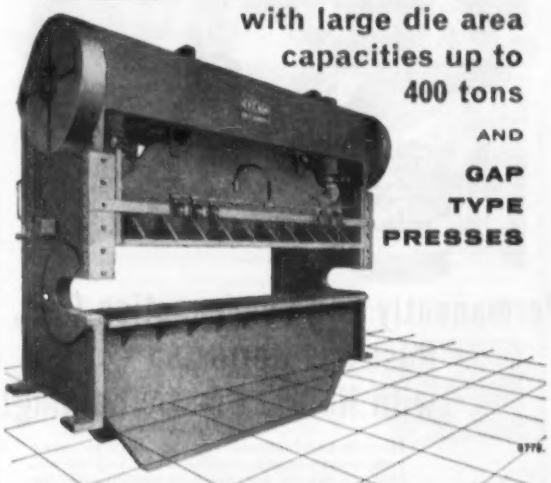
- *Stands 5' high x 36" square at base—lifts off 10" high ash pan.*
- *10 bushel burning capacity.*
- *Made of Armco rust-resistant aluminized steel (molten aluminum bonded to steel).*
- *Complete with ash pan base and grate.*
- *Needs no auxiliary fuel.*
- *Shipped completely assembled —weight 165 lbs.*

OTHER SIZES AVAILABLE

ALSTO COMPANY
Dept. NE-2, 4007 Detroit Ave., Cleveland 13, O.

For more details circle NED-604 A7 on enclosed inquiry slip

CHICAGO DREIS & KRUMP PRESSES
STRAIGHT-SIDE TYPE



with large die area capacities up to 400 tons AND GAP TYPE PRESSES

Complete recommendations for any job on request

Press Brakes • Straight-Side-Type Presses • Press Brake Dies
Hand and Power Bending Brakes • Special Metal-Forming Machines

DREIS & KRUMP MANUFACTURING CO.
7436 South Loomis Boulevard, Chicago 36, Illinois

For more details circle NED-605 A7 on enclosed inquiry slip

Modern AIR CONVEYING for BULK MATERIALS HANDLING

SPROUT-WALDRON
PNEU-VAC

Modernize for greater savings with a Sprout-Waldron PNEU-VAC Pneumatic Materials Handling System. It draws granular, pulverized, and flaky materials by air anywhere you can run a pipe. The unit can be made to cool, to heat, to aerate, to dry.

Pneu-Vac is self-cleaning, does not produce dust, prevents infestation and product intercontamination, saves space, increases production, provides greater safety and better working conditions.

Sprout-Waldron also offers complete lines of the most advanced screw, belt, and drag conveyors . . . bucket elevators . . . and rotary vane feeders. Write for details.

Write for Bulletin 18-D.

SPROUT-WALDRON
Manufacturing Engineers Since 1866
8 LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

For more details circle NED-606 A7 on enclosed inquiry slip

BOKUM TOOL USERS

NOW!

BOKUM OFFERS SERVICE AFTER SALE OF BORING TOOLS

Factory-sharpened Bokum boring tools every time you resharpen . . . that's what you get with your Bokum boring tools. You can maintain that extra precision over the lifetime of the tool with Bokum's new, low-cost Resharpening Fixtures . . . AB-1 for tool sizes No. 00000 to No. 3, AB-4-12 for sizes No. 4 to No. 12. They're easy to use, too. Compound angles required for correct resharpening are built into the Fixtures. A diamond dresser assures exact grinding wheel setting and a carbide-tipped stop locates the tool in proper position for grinding. Keep your tools factory fresh indefinitely.

Write Dept. T for Catalog Sheets AB-1 and AB-4-12 TODAY.

BOKUM TOOL CO. INC. 14775 Wildemere Ave. Detroit 38, Mich.

For more details circle NED-607 A7 on enclosed inquiry slip

Permanently End Condensation Drip, Rust and Corrosion with NoDrip Plastic Coating!

Here is the inexpensive, easy way to solve your condensation problem once and for all. NoDrip plastic coating acts immediately to insulate and protect tanks, pipes, walls, ceilings, air ducts and other metal equipment against condensation drip, rust and corrosion. NoDrip can be applied by anyone without special experience with brush, trowel or spray. NoDrip is also resistant to acid, alkali and brine... protects concrete, brick, plaster, tile, wood or composition surfaces.

FREE

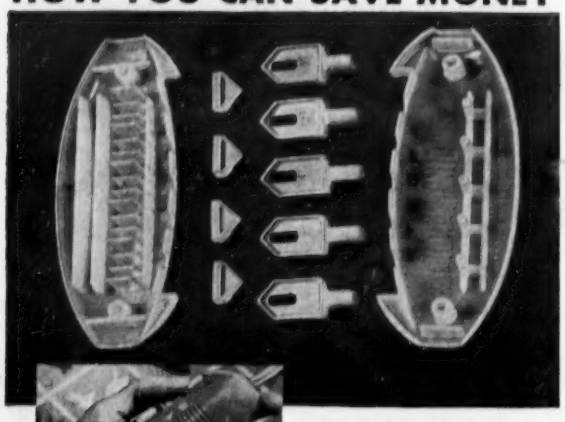
32-PAGE NoDrip DATA HANDBOOK — Complete with photographs, charts and technical information to help solve your condensation problem. Write today!

Available at leading plumbing and mill supply houses

J. W. MORTELL COMPANY 526-A Burch St., Kankakee, Ill.

For more details circle NED-618 A7 on enclosed inquiry slip

HOW YOU CAN SAVE MONEY



Heating pad switch of ZYTEL has simple, attractive exterior . . . intricately molded interior. Fewer parts needed in assembly. (Molded by Wilmington Plastics Co. for Saxony Electronics, Inc., Wilmington, Delaware.)

Use parts molded of ZYTEL® nylon resin

A single molded part of ZYTEL often replaces a number of components in an assembly. ZYTEL nylon resin is strong even in thin sections . . . it can take the working load of all the parts it replaces. Mechanical parts molded of lightweight ZYTEL frequently require no further finishing and little or no lubrication. Du Pont ZYTEL is resilient and tough, resistant to heat and chemicals, and has good dielectric strength. Mass production of parts by injection molding is both economical and rapid.

SEND FOR FREE DETAILS

It will pay you to learn how ZYTEL can help you improve existing products or make your new designs better. Simply clip and mail the coupon for more information.

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Dept. Room 541, Du Pont Building, Wilmington 98, Delaware

Please send me more information on Du Pont ZYTEL. I am interested in evaluating this material for _____

Name _____

Firm Name _____

Position _____

Type of Business _____

Street Address _____

City _____ *State* _____

In Canada: Du Pont Company of Canada (1956) Limited, P.O. Box 660, Montreal.

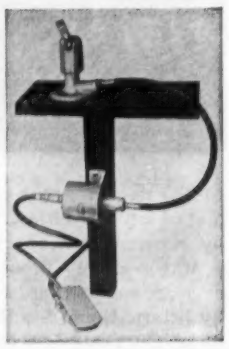
For more details circle NED-619 A7 on enclosed inquiry slip

PRESET COUNTER
electronic unit operates relays

From 0 to 5000 counts per second can be made by the MEK - 2094 - AG electronic counter, suited for various industrial counting applications. It will operate with photoelectric, semiconductor, magnetic or contact-making pickups. At the end of the warning and final count, plug-in relays are energized for control purposes. Counter can be reset to zero manually through a local or remote reset button. Or it can be reset automatically immediately or after the expiration of an adjustable time delay. Unit has a dusttight, oiltight NEMA 12 enclosure. Made by **Machinery Electrification, Inc.,** Dept. NED, 35 Hudson St., Northboro, Mass.

For more details circle NED-620 A7 on enclosed inquiry slip

WORK POSITIONER
positions, holds work at any angle



Easily installed on any bench or work station, the model 393 air-powered hydraulic Pow-Rarm provides instant positioning of work pieces at any angle. Operator's hands are left free for assembly operations. Unit consists of work positioner, air-hydraulic booster cylinder, foot pedal control, hoses and fittings. Activation is by 60 to 100-psi factory air line pressure. Work weight capacity is 105 lb with 100-psi air input. Made by **Wilton Tool Mfg. Co.,** Dept. NED, 9525 Irving Park Rd., Schiller Park, Ill.

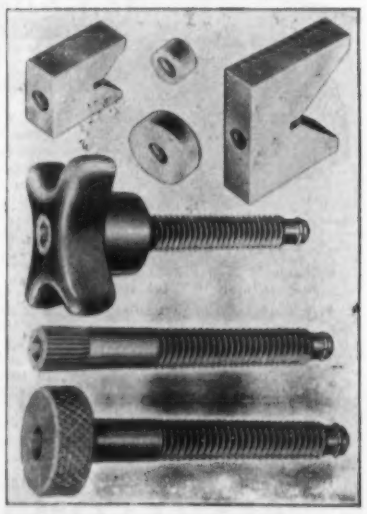
For more details circle NED-621 A7 on enclosed inquiry slip

PYROMETER CONTROLLER
automatically controls 4 to 10 units

Accuracy of a null balance potentiometer measuring circuit is combined with the speed of an electronic control system in this four to ten-point pyrometer controller. It can be applied to almost any installation suited for two-position control action. A pulse timer and selector-switch automatically connect thermocouples in sequence to the master control unit which compares each thermocouple voltage to its set point and energizes or de-energizes the corresponding load relay to the process unit. Usual operating speed is 3 seconds per point. Temperature ranges available are −400 to 3250° F for standard thermocouple calibrations and −100 to 1600° F for resistance bulbs. Made by **Thermo Electric Co.,** Dept. NED, Saddle Brook, N. J.

For more details circle NED-622 A7 on enclosed inquiry slip

JIG & FIXTURE COMPONENTS
various sizes offered from stock



Knurled shaft, knurled head with hexagon socket and hand knob types of jig and fixture screws are included in line of jig and fixture components available from stock. All can be used with either small or large diameter shoes or with adjustable V-pads (see photo). Each is available 1 to 5¼-in. lengths in five thread sizes. Made by **Northwestern Tool & Engineering Co.,** 127 Hollier Ave., Dayton 3, O.

For more details circle NED-623 A7 on enclosed inquiry slip

HOW SORENG "TT" STOCK SOLENOIDS

Can Meet Your Design Requirements Economically

55,000 sold daily

*Double T Plunger

All the exclusive custom features that have made Soreng a-c solenoids the most widely used in the world are embodied in the design of our stock line. One of our four basic types will probably fit your application . . . at the same time, you benefit from production run prices made possible through standardization.

For complete information write for Bulletin CF-124. It contains drawings, power curves, applications and other technical data.

CONTROLS COMPANY OF AMERICA

SORENG DIVISION

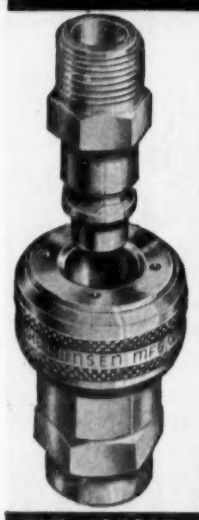
9577 Soreng Avenue • Schiller Park, Ill.

For more details circle NED-624 A7 on enclosed inquiry slip

HANSEN

QUICK-CONNECTIVE

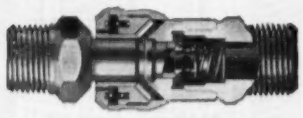
PUSH-TITE® COUPLING



Provides Instant Automatic Flow or Shut-Off

To connect a Hansen Push-Tite Coupling, you merely push the Plug into the Socket with one hand. Flow is instantaneous.

To disconnect, push back sleeve on Socket . . . Coupling disconnects and flow is shut off instantly and automatically. No tools required. When Coupling is connected, Plug is free-swiveling, thus eliminating any possibility of kinks in hose.



Two-way shut-off and straight-through Couplings also available.

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THE HANSEN MANUFACTURING COMPANY

4031 WEST 150th STREET • CLEVELAND 11, OHIO

For more details circle NED-625 A7 on enclosed inquiry slip

you buy more dependability in McGILL® 7000 series portable lamp guards

New Gray Neoprene-Butyl handle.

Exclusive quick release clamp.

Extra heavy-duty wire cage

Underwriters' Inspected

Neoprene-Butyl handle offers greater life, superior grease resistance, and resists deterioration even under the most rugged industrial service. No. 7100-SR (left) has exclusive thumb release clamp that lets you change bulbs without tools. Extra heavy cages are electrically welded, zinc plated with bright chromate finish. Available with LEVOLIER switch, or keyless, with or without 18-2SJ black rubber cord.

Available from Electrical Wholesalers

No. 7100-SR

WRITE FOR McGILL CATALOG NO. 84 TODAY

YOU CAN DEPEND ON McGILL QUALITY

McGILL MANUFACTURING CO., INC. 151 N. Campbell St. Valparaiso, Indiana

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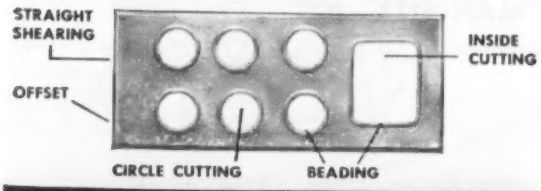
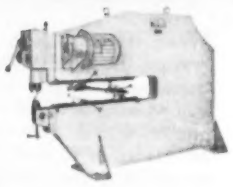
PULLMAX METALWORKING IDEAS

This steam table top was made completely on a PULLMAX



Pullmax machines have the versatility to do all of the metalworking jobs in your Model Shop, Engineering or Maintenance Departments.



One machine does straight shearing, inside or outside circle cutting, design cutting, inside square cutting, beading, joggling, slot cutting, louver cutting, dishing, edge bending and flanging. Seven sizes of machines cut up to 11/32" in mild steel. Ask for a demonstration.

Write for the Pullmax Catalog on Money-Saving Metalworking Ideas.

AMERICAN PULLMAX COMPANY INC.
2457 North Sheffield Avenue • Chicago 41, Illinois

For more details circle NED-627 A7 on enclosed inquiry slip

Neat, convenient and efficient steel bar storage stacked mechanically by the American MonoRail Stacker in narrow aisles.

HOW'S THIS FOR STEEL STORAGE!

American MonoRail engineers, working with Hawkridge Brothers Company, designed this system for storing bars, rods and other long steel shapes.
Note the extremely narrow aisles and maximum height of racks. Bars and rods, 20-22 feet long, are placed in pans 18 ft. long. The American MonoRail Stacker transfers these pans to either side of an aisle for storage.

Member of Materials Handling Institute and MonoRail Association

AMERICAN MONORAIL COMPANY
13116 ATHENS AVENUE • CLEVELAND 7, OHIO

(IN CANADA—CANADIAN MONORAIL CO., LTD., GALT, ONT.)

For more details circle NED-628 A7 on enclosed inquiry slip

More per hour with MEAD WORK FEEDERS

Feed work fast to drill, tap, broach, mill. Delivers, holds, ejects stampings, castings, screw machine parts up to 3"—thousands per hour. Combines with MEAD Timers and Drill Press Feeds for easy, cost-saving automation.

Send for new Air Power catalog today!
(See Thomas' Register for nearest distributor's address, phone number.)

MEAD SPECIALTIES COMPANY
4114 N. Knox Ave., Dept. NA-17 Chicago 41, Ill.
PATHFINDER IN AIR POWER AUTOMATION

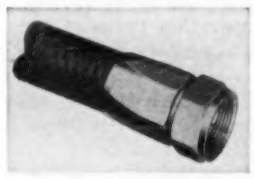
For more details circle NED-629 A7 on enclosed inquiry slip

SUBMINIATURE SWITCH
sealed snap-action type

Lightweight, 7/8 x 3/8 x 5/8-in. hermetically sealed subminiature snap-action switch is designed for −65 to 250° F service. Built-in metal leaf actuator allows for actuation at any point. Explosionproof switch for use in hazardous locations will operate safely while immersed in liquid or gas. Single-pole double-throw, single-pole normally-open and single-pole normally-closed circuit types are offered. Rating is 5 amp at 125/240 v ac; and 2½ amp at 30 v dc, inductive at 50,000 ft. Made by **Milli-Switch Corp.**, Dept. NED, 1742 Berkeley St., Santa Monica, Calif.

For more details circle NED-630 A7 on enclosed inquiry slip

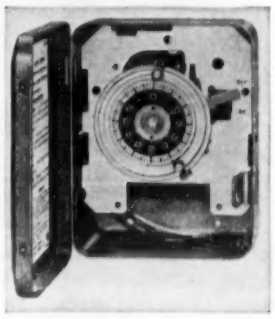
REUSABLE HOSE ENDS
for gas, air and oil lines



Line of model H-69 reusable hose ends is usable where medium high pressure, cotton-covered, single-wire braid hose is required. Threads match SAE and JIC standards. Sizes in inverted male thread are 1/4 to 3/8-in., in female swivel from 1/4 to 2 in. and in rigid male pipe from 1/8 to 2 in. Application can be to air, fuel, hydraulic, grease, oil, LP-gas and other lines on transfer equipment, trucks, materials handling and earthmoving equipment. Made by **Weatherhead Co.**, Ft. Wayne Div., Dept. P, 128 W. Washington Blvd., Ft. Wayne, Ind.

For more details circle NED-631 A7 on enclosed inquiry slip

CYCLE TIMER CONTROL
for 10-second to 12-minute cycles



On-off cycles on ventilating fans, pumps and process operations can be controlled by the Intermatic Cycler-12 timer. "On" operations can range from 10 seconds to 11 minutes, 10 seconds, while "off" operations can be from 50 seconds to 11 minutes, 50 seconds. Time dial will accommodate up to 12 sets of on-off trippers. Housed in drawn steel case, timer is available for 125-v operation with capacity of 1875 w. Other extras include manual control without interrupting the automatic cycle, snap-out mechanism and easily removed trippers. Made by **International Register Co.**, 2624 W. Washington Blvd., Chicago 12, Ill.

For more details circle NED-632 A7 on enclosed inquiry slip

DELIVERY OFF THE SHELF IN 64,000 COMBINATIONS

T-J Spacemaker CYLINDERS

OUTMODE ALL OTHERS... SAVE 40% SPACE

You'll never go back to tie-rod cylinders, once you apply T-J Spacemakers to your push-pull-lift jobs! Advantages in space saved, weight saved, greater strength and off-the-shelf delivery are among the dozens of Extras you get as Standard!

Now—these sensationally popular T-J Spacemaker Cylinders are available off the shelf *in sizes up to 8"*. This means as many as 64,000 different combinations of styles, bores, strokes, mountings, etc. *immediately available!* Oil pressure to 750—Air to 200 P.S.I.; Super Cushion Flexible Seals for Air... New Self-Aligning Master Oil Cushion. Hard chrome plated bodies and piston rods (Standard). Only from T-J can you get these new ingenious cushion designs! Send for bulletin SM-155-2. The Tomkins-Johnson Co., Jackson, Mich.

Member of the National Fluid Power Association

T-J TOMKINS-JOHNSON
DIRECTIONAL · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHERS

For more details circle NED-633 A7 on enclosed inquiry slip

STANLEY "SURFORM"®
A new kind of tool — does 1001 jobs!

SURFORM Plane type — $3.69
SURFORM File type — $2.69

Stanley *SURFORM* forms the surface of wood, plywood, floor tile, plastics, hard rubber, copper, aluminum — even mild steel. It's easy, it's fast, it's safe.

450 sharp edges work together!

This cutting strip is the secret of Stanley *SURFORM*. The holes take cuttings away from work. There is nothing to adjust. The depth of cut is automatically controlled.

Replacement blade fits both tools — 98¢

Stanley *SURFORM* is a money-saving, time-saving tool for 1001 industrial applications. Ask your distributor about Stanley *SURFORM*. Stanley Tools, Division of The Stanley Works, New Britain, Conn.

The Tool Box of the World

STANLEY

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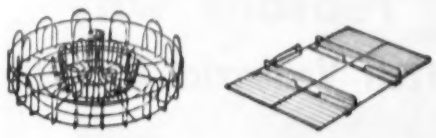


Versatile FORMED WIRE PRODUCTS BY *Peerless*

There's extra advantage in calling Peerless for consultation on your formed wire products problems. Peerless Design Engineers have been helping major manufacturers with recommendations, fabrication and delivery since 1910.

Peerless is recognized by the major manufacturers as one of the leading producers of wire goods. Complete facilities are maintained by Peerless for resistance welding at all points of contact and complete finishing services including zinc plate, zinc chromate, lacquer and poly-vinyl finishes. Peerless can help you with your design and formed wire production problems.

Write today for Peerless' new brochure on their plant facilities. We invite your immediate inquiry on your current problems.

PEERLESS WIRE GOODS COMPANY, INC.
2700 FERRY STREET · LAFAYETTE, INDIANA

For more details circle NED-635 A7 on enclosed inquiry slip

Have You Seen the Advantages of this **NEW "STEEL-SAVING" PROCESS!**

Send today for information describing the

Alumicoat
Molten Aluminum Coating Process

Protects carbon and low alloy steels from high temperature oxidation!

In many cases, expensive high alloy strategic steels may be replaced with low alloy steels which have received the ALUMICOAT Molten Aluminum Coating Process. Under high temperature conditions, these low alloy steels would ordinarily oxidize and scale, but after the application of the ALUMICOAT Process, they have proven superior to strategic alloy steels.

For Free Alumicoat Brochure — Use Coupon below!

Arthur Tickle Engineering Works, Inc.
21-G Delevan Street
Brooklyn 31, N. Y.

Please send ALUMICOAT Brochure to:

Name _____
Address _____
City _____ Zone _____ State _____

For more details circle NED-636 A7 on enclosed inquiry slip

The Sign of QUALITY MOTOR CONTROL

These Dependable Starters for Small Motors provide accurate overload protection

A-B Bulletin 600 starting switches are designed for all types of "industrial service." The snap-action single or double pole switch mechanism is ruggedly built to assure long, trouble free operation. Accurate thermal breakers—which prevent switch being held closed during overload—protect motors against burnouts. Available in single or double units, or in combination with pilot light or selector switch in various NEMA enclosures. Send for A-B Bulletin 600.

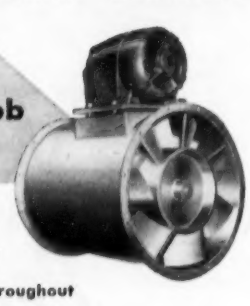
Allen-Bradley Co.
1334 S. Second St., Milwaukee 4, Wis.
In Canada—
Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

For more details circle NED-637 A7 on enclosed inquiry slip

7 reasons why Hartzell Vaneaxial Blowers

- last longer
- do a better job



- all-welded construction
- heavier gauge steel throughout
- dynamically-balanced, aluminum-alloy impellers
- certified ratings
- no maintenance problems
- totally-enclosed belts
- top quality, name-brand motors

For complete details, call your nearby Hartzell field engineer or write for Bulletin A-110.

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
406 Thomas Blvd., Piqua, Ohio
ENGINEERING OFFICES IN PRINCIPAL CITIES

For more details circle NED-638 A7 on enclosed inquiry slip

Handy Pump says:

"BLACKMER HAND PUMPS PAY THEIR WAY"—They save time and cut waste in dispensing liquids from tanks, vats, drums and barrels

ROTARY TYPE

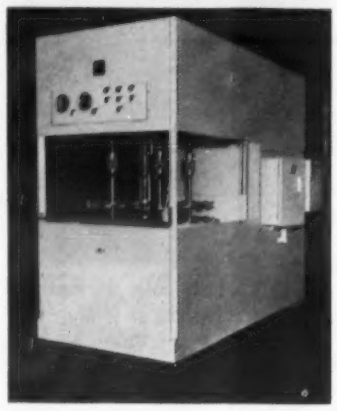
PISTON TYPE
The New Blackmer Flo-Master

liquid materials handling®
BLACKMER

Industrial, Hand and Truck Pumps, Strainers, Pressure Control Valves
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICH.
DIVISION SALES OFFICES — NEW YORK • ATLANTA • CHICAGO
GRAND RAPIDS • DALLAS • WASHINGTON • SAN FRANCISCO
See Yellow pages for your local sales representative

For more details circle NED-639 A7 on enclosed inquiry slip

PARTS FINISHING PROCESS produces high luster on die-cast parts preparatory to plating



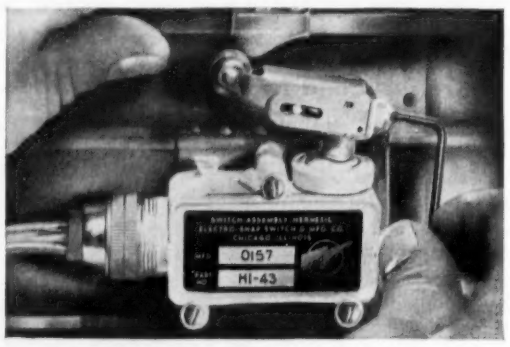
Finishing of brass, zinc-base and aluminum die-cast parts in preparation for plating is performed automatically by this Spin-Finish machine. Process is reported to eliminate the need for hand or automatic buffing. It uses a dry compound and is dust-free and fume-free. It produces a high luster on a multiple mounting of parts.

Fixtures are mounted on four double-action revolving spindles. Fixtures provide simultaneous locking and unlocking of parts with a single turn of a cam. Operating principle, combined with special compound, permits finishing in a single operation parts of unusual shape which are difficult to process by conventional methods or which require several separate operations to produce an acceptable finish for plating. Made by **Grav-i-Flo Corp.**, Davidson & Norwood Ave., Sturgis, Mich.

For more details circle NED-640 A7 on enclosed inquiry slip

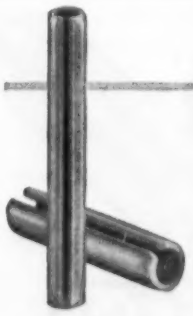
AIRCRAFT CONTROL SWITCH operates in —100 to 250° F range

Actuator arm of the H1-43 Electro-Snap aircraft control switch can be adjusted infinitely through an arc of 14 degrees and can be altered after installation



to meet requirements. The adjustable roller arm actuator is well suited for direct, cam or slide operation. Complete switch mechanism is sealed in inert gas and is not affected by altitude changes, moisture and temperature cycling. Actuator's tipping action assures control even when switch is ice-coated. Switch is rated 10 amp 125/250 v ac, 28 v dc inductive and operates in −100 to 250° F range. Made by **Electro-Snap Switch & Mfg. Co.**, 4232 W. Lake St., Chicago 24, Ill.

For more details circle NED-641 A7 on enclosed inquiry slip



cut production costs with SEL-LOK spring pins

SEL-LOK spring pins materially reduce production costs, because you simply drive them in plain drilled holes with either hand or automatic assembly tools. They eliminate expensive close-tolerance tapping, reaming, peening and milling operations, with the associated rejects and waste. Once a SEL-LOK is installed, it stays put—the hollow split tube flexes to absorb vibration and shock. SEL-LOK spring pins are available at your authorized industrial distributor's in sizes ranging from 1/16 by 3/16 to 1/2 by 5 in., in heat treated alloy or corrosion resistant steel. Write us for Bulletin 2014 and samples. Sel-Lok Spring Pin Division, STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
SEL-LOK® SPRING PIN DIVISION
SPS
JENKINTOWN PENNSYLVANIA

For more details circle NED-642 A7 on enclosed inquiry slip

Chore Boy PLATFORM TRUCK DOES "MAN-SIZE" JOB

Two Sizes — 2,000 and 3,500-lb capacities

When it comes to intra-plant shuttle and delivery service, the Allis-Chalmers CHORE BOY truck does a real man-size job. Its low, wide deck is easy to load . . with material of any kind. Short turning radius enables it to go from one 67-inch aisle into another. It travels up to 10 mph, has many excellent safety features. Ask your Allis-Chalmers material handling dealer to put a CHORE BOY truck through its paces for you, or write for free literature. BH-35

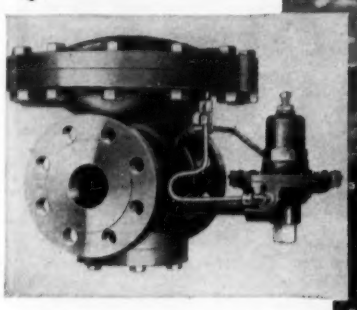
MATERIAL HANDLING DEPT., BUDA DIVISION, MILWAUKEE 1, WISCONSIN

ALLIS-CHALMERS

CHORE BOY is an Allis-Chalmers trademark.

For more details circle NED-643 A7 on enclosed inquiry slip

THE *Old Faithful* OF STEAM PRESSURE REDUCTION



FISHER TYPE 92A
PILOT OPERATED CONTROL VALVE

Power engineers everywhere have ok'd the FISHER TYPE 92A for steam pressure control! It's an accurate, compact, flexible, sturdy controller, designed, built and proved to meet the **most exacting requirements** for steam service.

WRITE FOR BULLETIN C-4

SINGLE SEATED TIGHT CLOSURE

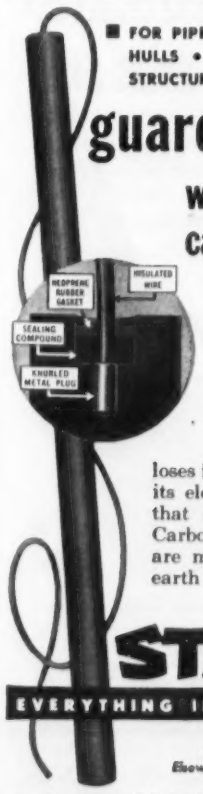
Two interchangeable pilot assemblies available for high or low pressure service.

FISHER GOVERNOR CO.
MARSHALLTOWN, IOWA

For more details circle NED-644 A7 on enclosed inquiry slip

■ FOR PIPE LINES • MARINE STRUCTURES • SHIP HULLS • STORAGE TANKS • WELL CASTINGS STRUCTURAL FOOTINGS . . . *and many more*

guard against rust with Corrosion Control carbon-graphite anodes



Wherever metal is buried in the ground or immersed in water, Stackpole "Cathodic Protection" offers a thrifty, effective means of guarding it against rust and corrosion. In effect, the metal itself becomes a "cathode". Thus it loses its ability to corrode . . . because its electrical potential is lower than that of its environment. Stackpole Carbon-Graphite Grounding Anodes are made in special types for both earth and water applications.

Write for details.

STACKPOLE
EVERYTHING IN CARBON BUT DIAMONDS

New England or West of Rockies write: Stackpole Carbon Co., St. Marys, Pa.
Elsewhere in U.S. write: Corrosion Control, Inc., Tulsa, Oklahoma

For more details circle NED-645 A7 on enclosed inquiry slip

Join Plain-End Pipe

WITHOUT THREADING

Ideal for joining pipe on pumps, compressors, engines, tank lines, cooling systems—in fact, wherever small piping is used. The quickest, easiest, most economical way to join plain-end pipes permanently is with Dresser Style 38 Couplings. Fast? . . . a 4-minute connection! And a wrench is the only tool you need. These couplings absorb expansion-contraction stresses without leakage . . . for years of rugged, dependable service. Sizes from 3/8" ID through 2" OD. Write today for FREE catalog.

DRESSER® MANUFACTURING DIVISION

30 Fisher Ave., Bradford, Pennsylvania

For more details circle NED-646 A7 on enclosed inquiry slip

★ FOR STRAPPING USERS

New pump-type, multi-cut BRAINARD sealer

● Specially designed for tensional strapping use on top or sides of pallets, containers and skids where operating space is limited or awkward and for car-door bracing. Sealer operates at 90° to the strap . . . permits fast, easy strapping with multi-cut joints. Write for details today.

Brainard — STEEL DIVISION SHARON STEEL CORPORATION

Write to:

BRAINARD STEEL DIVISION

Griswold Street, Dept. N-1
Warren, Ohio

MAKERS OF QUALITY STEEL STRAPPING

For more details circle NED-647 A7 on enclosed inquiry slip

Free!

16 PAGES— and every page shows you HOW TO SAVE MONEY IN HEATING!

In many cases, modern heating principles make old-style ovens too costly to operate. Therefore, Jensen Specialties offers this new catalog of advanced, versatile ovens.

Find out how your present system may be cutting into your profits; how Jensen Ovens slash maintenance costs in baking, drying, curing and pre-heating.

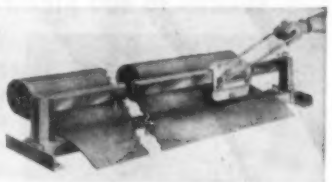
GET THESE TIPS ON COST SAVING
- INCREASED PAYLOAD
- ECONOMIES IN RADIATION-CONVECTION HEATING
- UNIFORM HIGH QUALITY PRODUCTION
- LOWER FUEL COSTS

Send today — your copy will be mailed immediately!

JENSEN SPECIALTIES, INC.
9354 FREELAND • DETROIT 28, MICHIGAN

For more details circle NED-648 A7 on enclosed inquiry slip

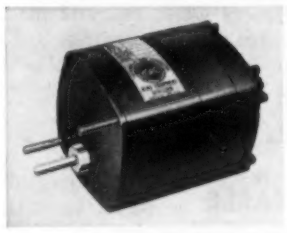
ROLL SHEAR CUTTER for wrapping, packaging materials



All wrapping and packaging materials, including double-face corrugated board, solid fiberboard, heavy chipboard, burlap, rubber matting and ¼-in. excelsior pads, can be cut by this roll shear cutter. Cutter handle automatically adjusts to pulling position on cutting mechanism and operates from either side for pulling or pushing. Interchangeable knives are available for cutting, perforating and creasing. Cutting knife tension is adjustable to suit any material. Machine widths are 24, 36, 48, 60 and 72-in. Accessories are a steel reel holder and a hold down guide. Made by **E. O. Bulman Mfg. Co.,** 1652 McReynolds N. W., Grand Rapids 2, Mich.

For more details circle NED-649 A7 on enclosed inquiry slip

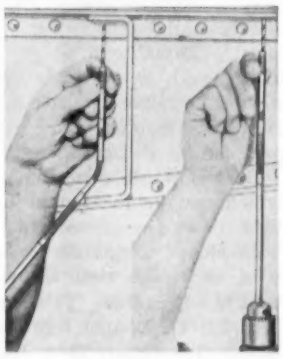
SUBFRACTIONAL HP MOTORS 1/2000 to 1/750-hp ratings



Improved line of subfractional horsepower Borg-Motors for precision instruments is available in synchronous and induction types, with or without gear trains. Range is from 1/2000 to 1/750-hp. End bells and gear train cases are die cast alloys, machined to form a totally enclosed housing. Geared output shafts have two bearing supports for radial loading. Gears are hobbed, and die cast rotors are ball bearing mounted. Made by **George W. Borg Corp.,** Borg Equipment Div., 120 S. Main St., Janesville, Wis.

For more details circle NED-650 A7 on enclosed inquiry slip

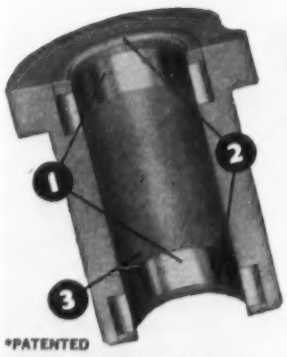
DRILL EXTENSION converts from flexible to rigid



Flick of a finger converts this Little Beaver series 600 drill extension from a flexible to a rigid extension without shutting off the power. Change-over is made by sliding the locking sleeve to either position. Device adds 10 in. or more to standard length drills. It accommodates over 52 drill sizes with corresponding stamped chucks available in numerical sizes from 1/16 to 3/16 in. by 64ths. Made by **Beaver Tool Co.,** 183N New York Ave., Huntington Station, L. I., N. Y.

For more details circle NED-651 A7 on enclosed inquiry slip

INCREASE PRODUCTION.. SAVE TIME & MONEY



*PATENTED

1. Tungsten carbide rings at the points of wear; 2. Steel rings protect drills and carbide; 3. Special hardened alloy steel body.

For information and prices write for MEYCO Bushing Catalog No. 49

MEYCO

Carbide Inserted Bushings Are Doing It Daily!

How? Like this: (1) Last longer . . . with a life—in most cases—as long as solid carbide bushings at prices that approach the price of steel bushings; (2) Increased life for your drill jigs and fixtures; (3) Increased life for your drills and reamers; (4) Accuracy maintained for a LONG PERIOD of time; (5) Less non-productive machine time, less lost man-hours, because bushings need not be changed as often; (6) Inspection time saved, because of greater accuracy for a longer time; and (7) Less waste due to spoilage, for the same reason. Don't pass up a good bet! Get the dope on MEYCO Carbide Inserted Drill Jig Bushings today!

ESTABLISHED 1888

W. F. MEYERS CO., INC., BEDFORD, INDIANA

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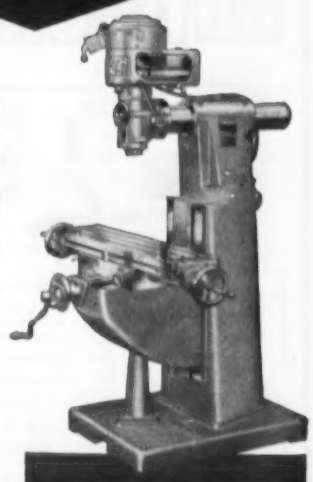
NEW!



Exceptional versatility and accuracy enable this new milling machine to keep machining costs low on a wide variety of work. Unique design provides easy operation and ample rigidity. *Write for information.* South Bend Lathe, South Bend 22, Indiana.

SPECIFICATIONS:
Table travel..... 20" or 30"
Spindle to table.. 20"
Spindle to column 20"
Spindle speeds.. 8
Ram travel..... 15"
Head rotation... 360°

SOUTH BEND VERTICAL MILLING MACHINE

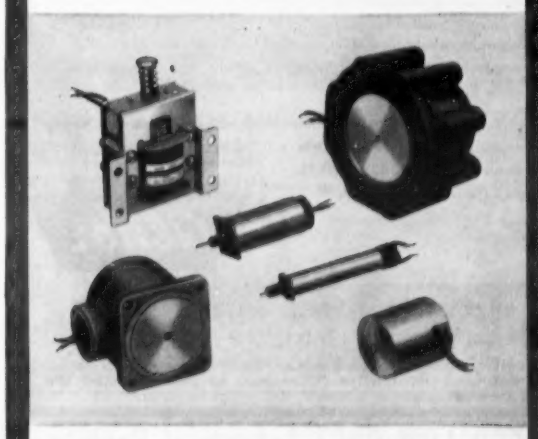
For more details circle NED-653 A7 on enclosed inquiry slip

NATIONAL ACME

Solenoids

STANDARD or CUSTOM ENGINEERED to fit your design

To meet specific job requirements, solenoids of special shapes and sizes are designed and built through co-operation of our engineers with yours.



NATIONAL ACME OFFERS **2-Way Machine Design Service**

First, National Acme supplies solenoids so dependable that they have become standard components in the majority of the most rugged machine tools. Second, National Acme offers you sound application experience, based upon successful performance in many fields.

National Acme solenoids will make *your job easier*—because they do *their job better.*

1. *Armored contact points—for millions of operations*
2. *Non-magnetic retainers*
3. *Compact—for use where space is limited*
4. *Rugged enough for heaviest duty*
5. *Available with terminal blocks and variety of standard mountings*
6. *Made in Push and Pull types, within sizes from 2½ to 21 lbs. at ½-inch stroke; 2 to 25 lbs. at 1-inch stroke.*

If you are ready to discuss your problem, ask us to send a National Acme representative. If you want more information first—send for BULLETIN EM-52

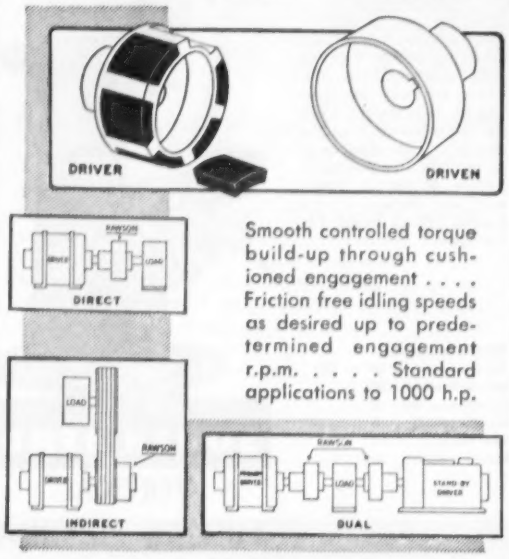
Electrical Manufacturing Division

National Acme

The National Acme Company • 182 E. 131 St. Cleveland 8, Ohio

For more details circle NED-654 A7 on enclosed inquiry slip

RAWSON® AUTOMATIC CENTRIFUGAL CLUTCH



Smooth controlled torque build-up through cushioned engagement . . . . Friction free idling speeds as desired up to predetermined engagement r.p.m. . . . . Standard applications to 1000 h.p.

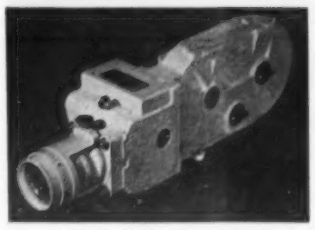
RAWSON COUPLINGS

O. S. WALKER COMPANY, INC.

200 Rockdale St. • Worcester, Mass.

For more details circle NED-655 A7 on enclosed inquiry slip

HIGH SPEED CAMERA records missile flight data at speeds to 600 pictures per second

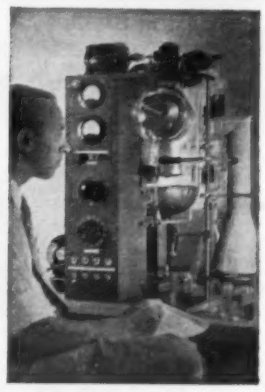


This 16-mm Fastair high speed motion picture camera is specifically designed to record flight characteristics of guided missiles, photograph ground or instruments on board the missile, or record data on response of sensing mechanisms. Camera uses a continuous rotating prism synchronized with film movement and can take pictures from 12 to 32, 64 to 300 or 350 to 600 per second using low, medium and high speed interchangeable motors, respectively.

The small, compact camera withstands constant high gravity loads up to 100 g, as well as sharp impact occurring in missiles just prior to component failures. It is furnished with either 17-mm, ½ or 1-in., f/2.3 Fastair-Raptar lens and 100-ft magazine. Thermostatically controlled heater is used when operating camera from 40 to −65° F. Camera can also be used in aircraft gunnery work, study of mechanical linkage, fluid flow, instrument readings and aircraft strain in wind tunnel or actual flight. Made by **Wollensak Optical Co.**, Dept. MC, 850 Hudson Ave., Rochester 21, N. Y.

For more details circle NED-658 A7 on enclosed inquiry slip

DISTILLATION Now you can



- Distill heat-sensitive, labile materials with molecular weights as high as 1200.
- Work with less danger of thermal decomposition than with any other distillation method.
- Evaporate materials almost instantly at a film thickness of .01 millimeter.

...with new CEC centrifugal molecular stills

Now you can get a still that's simple to operate, easy to control. A still that provides truly economical laboratory and pilot-plant distillation of heat-sensitive materials.

Your choice of two models—the CMS-5 (illustrated) and the larger CMS-14. Capacities from 100 cc to 5 gallons. Distillation rates from .03 gm. per minute to 1½ gal. per hour.

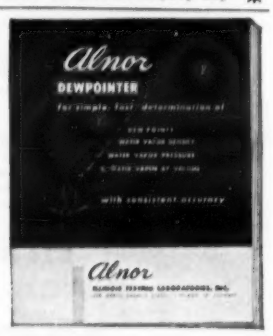
Both stills are sold on a royalty-free basis for noncommercial uses. Write for Bulletins 3-5 and 3-10.

Consolidated Electrodynamics
Rochester Division, Rochester 3, N.Y.
formerly Consolidated Vacuum

NATIONWIDE COMPANY-OWNED SALES AND SERVICE OFFICES

For more details circle NED-661 A7 on enclosed inquiry slip

get this **free** INFORMATIVE BULLETIN



Learn how easy it is for anyone to determine dew points quickly and accurately with the

ALNOR DEWPOINTER!

Only the Alnor Dewpointer has a sealed testing chamber, where atmospheres can be analyzed under controlled conditions... where the fog is observed *suspended in air* for fast, positive readings. Completely self-contained and readily portable for laboratory accuracy anywhere in the plant or field. No cooling equipment required. And simple, direct operation enables even nontechnical personnel to easily obtain precise results, time after time.

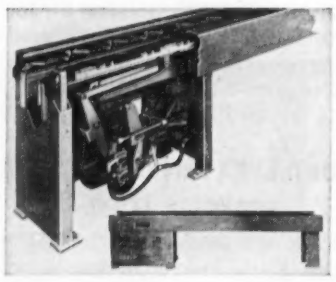
Tear out this ad and send it along with your business letterhead to Illinois Testing Laboratories, Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-656 A7 on enclosed inquiry slip

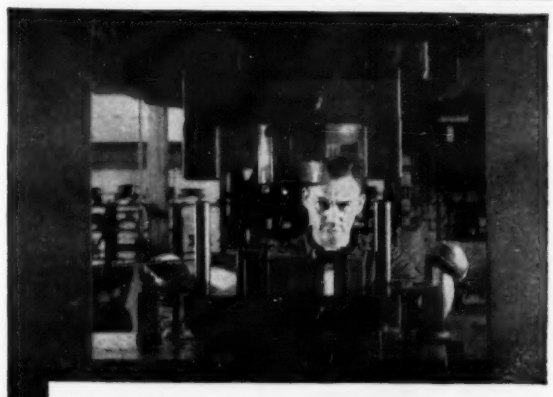
IN-LINE TRANSFER TABLE moves parts from station to station at 6400-per-hour rate



Parts which have a flat surface on which to slide along a track are transferred from station to station without fixtures by this in-line transfer table. Up to 6400 pieces can be handled per hour. Table cam locks parts at each station with 0.005-in. tolerance without auxiliary locating devices. When tolerance is less than 0.005-in., a pin or locating lug on the part can be utilized.

Base support contains an intermittent drive unit which can be located at either end or in middle of table to suit requirements. Operators can work from both sides. Index distance can be varied from 3 to 9 in. and index time from 0.25 to 0.7-second. Dwell time is adjustable. Tables are offered in lengths from 5 to 12 ft. Longer units can be specified. Made by **Dixon Automatic Tool, Inc.**, 2302 23rd Ave., Rockford, Ill.

For more details circle NED-659 A7 on enclosed inquiry slip



Consider your press operator when you consider an O.B.I.

You realize more from every man-hour if your operators know they're working with fine, dependable equipment. When it comes to O.B.I.'s that means Clearing. Find out why. Write for O.B.I. Catalog No. 215.

CLEARING PRESSES THE WAY TO EFFICIENT MASS PRODUCTION

CLEARING MACHINE CORPORATION

6499 W. 65th St., Chicago 38, Ill., Hamilton Plant, Hamilton, Ohio

Division of U. S. INDUSTRIES, INC.

For more details circle NED-662 A7 on enclosed inquiry slip

FOR LOW-COST Industrial Venting and Heating Plant Exhausting . . . Investigate *Quickdraft*

★ NO FAN OBSTRUCTION IN EXHAUST LINE
★ BLOWER OPERATES IN CLEAN OR OUTSIDE AIR
★ CAN BE USED WITH OR WITHOUT STACK

N-879-QD

FOR INDUSTRIAL VENTING. Quickdraft eliminates down-time for cleaning and replacing fan blades . . . cuts maintenance costs. It is ideal for venting paint booths . . . abrasives, corrosive gasses, noxious fumes, high temperatures and moisture.

FOR HEATING PLANTS AND INCINERATORS. Quickdraft provides constant draft required for perfect combustion. It eliminates pulsating or chattering, puffing, smoking and sooting.

FOR MOVING AIR . . . in or out of buildings through ducts . . . Quickdraft is outstanding.

Capacities of 56 standard and heavy duty models (6 to 30-inches diameter) . . . 140 CFM to 16,766 CFM with or without stacks. Greater capacities on special order.

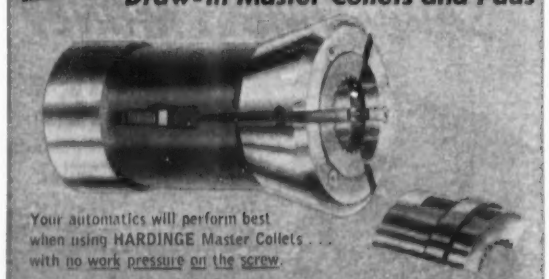
Send for engineering data . . . today.

Quickdraft COMPANY
Dueber-Hampden Building
P. O. Box 87-L • Canton 1, Ohio

For more details circle NED-657 A7 on enclosed inquiry slip

HARDINGE ELMIRA, N.Y.

Style "S" SURE-GRIP
Draw-In Master Collets and Pads

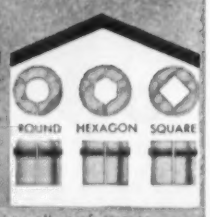


Your automatics will perform best when using HARDINGE Master Collets . . . with no work pressure on the screw.

Available in all sizes up to 3½" capacity for the following machines:

CLEVELAND
CONE
GREENLEE
GRIDLEY and
ACME-GRIDLEY
NATIONAL ACME
NEW BRITAIN
WARNER & SWASEY

Pads changed quickly without removing master collet from spindle . . . interchangeable among different machines of the same capacity.



Write for Style "S" Bulletin which gives all performance features, price savings and ordering information.

SPECIFY HARDINGE COLLETS
For all Lathes and Automatics
Over 65 Years of Manufacturing Experience

HARDINGE BROTHERS, INC., ELMIRA, N. Y.

"Immediate stock delivery from Elmira, Dayton, Chicago, Minneapolis, St. Louis, Detroit, San Francisco, Los Angeles, Philadelphia, Hartford, New York."

For more details circle NED-660 A7 on enclosed inquiry slip

Commander

SELECT A SPINDLE

DUAL SPEED DRILL PRESS TURRET

DRILLS, REAMS, TAPS ON 1 DRILL PRESS SPINDLE!

- **Fits Any Drill Press**
- **Increases Production**
- **Reduces machine, fixture costs**

Commander Select-A-Spindle permits you to do 3 operations on a single drill press spindle . . . save time . . . eliminate multiple handling of piece parts, speed production and reduce overall costs. Dual Speed Select-A-Spindle permits selection of proper speed for each operation. Quick, positive hand indexing positions each tool accurately for sequence operations. Select-A-Spindle is built to tap with any 1, 2 or all 3 spindles to the full capacity of the unit. Adjustable torque control spindles for protection of taps to ¼" available.

Write for illustrated circular on Select-A-Spindle, other Commander Production Tools and name of your nearby Commander Distributor

Commander MFG. CO.
4220 W. KINZIE STREET, CHICAGO
PRODUCT OF COMMANDER . . . BUILDER OF PRODUCTION TOOLS

For more details circle NED-663 A7 on enclosed inquiry slip

J & H Submersible Motor

meets diverse pumping conditions

- Operates in water. Can be easily modified to operate in gasoline, crude oil and many other fluids.
- Flexible length/diameter ratio to fit casing, tank, pipeline or pump-motor condition you specify.
- Long service life, low maintenance.
- Horsepower ratings from ½ thru 5 hp at 3450 rpm.

Send for Data!

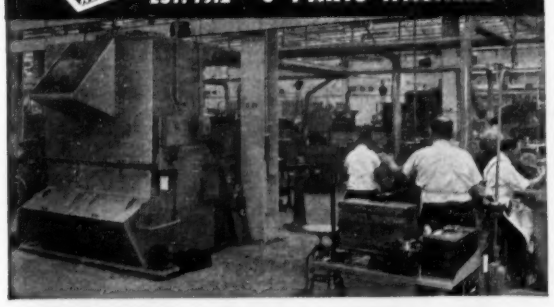
For motor data, write on your company letterhead to: Jack & Heintz, Inc., 1 629 Broadway, Cleveland 1, Ohio.

JACK & HEINTZ

For more details circle NED-664 A7 on enclosed inquiry slip

ND NEWCOMB-DETROIT EST. 1912

- INDUSTRIAL OVENS
- DUST COLLECTORS
- SPRAY BOOTHS
- PARTS WASHERS



UNI-WASH DUST COLLECTORS

Compact, complete recirculating Water-Type Dust Collectors for industrial processing dusts. Dirt is collected as wet sludge which may be carried away automatically. No moving parts. Extremely efficient for grinding operations. Eliminates danger of explosion from magnesium and aluminum dust. Proven in foundries. Standard Units available.

For Bulletins and Quotations, write to:

NEWCOMB-DETROIT

5769 RUSSELL ST. • DETROIT 11, MICH.

For more details circle NED-665 A7 on enclosed inquiry slip

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flexible plastic TUBING

Tygon Tubings combine true flexibility, glass clear transparency and exceptional resistance to corrosion. The many formulations provide superior service under a wide range of service conditions.

Some formulations are tasteless, odorless, non-toxic for high purity solutions such as plasma, drugs, liquid foods and milk products. Others handle corrosive gases and liquids and are chemically inert to attack by acids, alkalies, oils and alcohol. Still others withstand pressures to 300 p.s.i. or full vacuums. All formulations are physically tough, withstand rough usage and provide longer useful service.

Tygon tubings are installed in minutes. Cleaning is simplified by the highly polished bore. Fifty-five sizes from 1/16" through 3" provide a size for virtually every use.

Send for Bulletin T-97 today.

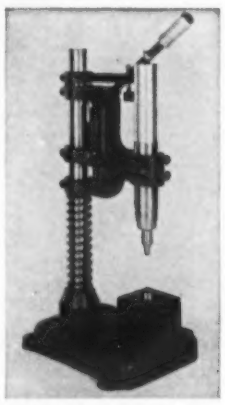
Plastics and Synthetics Division

U. S. STONEWARE

AKRON 9, OHIO 387E

For more details circle NED-666 A7 on enclosed inquiry slip

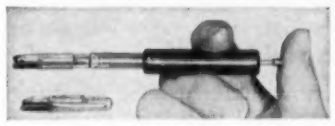
BENCH RIVETER for 1/32 to ¼-in. rivets



Latest riveter of the Airflex spin-impact design is the SPB 7-in. throat bench model redesigned for positive alignment and long service life. Three sizes accommodate solid or hollow rivets from 1/32 to ¼-in., based on solid mild steel. Air-operated tool spins at 500 rpm and impacts at 16,000 blows per minute. Head is fed manually by hand lever. Performance is suited to needs of a small shop, or short production runs in a large plant. Both hollow and solid rivets can be set in fracturable parts without cracking, chipping or flaking. Made by **Lemert Engineering Co.**, 203 E. Jefferson St., Plymouth, Ind.

For more details circle NED-667 A7 on enclosed inquiry slip

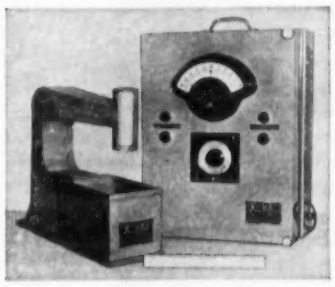
LAMP EXTRACTOR-INJECTOR for small switchboard lamps



Plastic chuck that slips over and firmly grips the lamp to be removed enables this insulated switchboard lamp extractor-injector to enter a pilot hole as small as 0.330-in. diameter. Replacement lamp is slipped into the chuck, seated and released by means of the plunger. Made by **Atocon Corp.**, Galion 5, O.

For more details circle NED-668 A7 on enclosed inquiry slip

MATERIAL THICKNESS GAGE is electronic noncontact type



Thickness of material in process can be measured to within 1 per cent of predetermined standard by this portable electronic Xact Ray gage. The noncontact type gage employs an x-ray beam whose energy is transmitted through the material being measured. It is a small version of the instrument currently used to measure and control thickness of such in-process products as plastic sheet and tube, rockwool bats, wall board, plate glass, rubber sheet, paper, cotton batting and felt. Variations from predetermined weight, density or thickness can be held to ±1 per cent with auxiliary automatic control equipment. Made by **Industrial Gauges Corp.**, Dept. N, West Englewood, N. J.

For more details circle NED-669 A7 on enclosed inquiry slip

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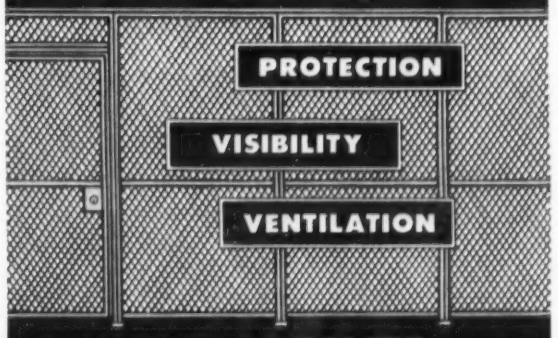
for better plant layout . . .



DEPARTMENTALIZE with Wipco Wire Partitions

WIPCO standard, reusable wire partitions are the efficient, low-cost answer to plant layout. A rigid wall of tough, machine-woven steel wire, WIPCO enclosures protect against theft . . . loss . . . and permit unrestricted air circulation and ventilation. Available in standard sizes, WIPCO enclosures are re-usable—easily erected by your own men . . . easily disassembled and reinstalled in other locations. WIPCO enclosures are economical to maintain, and promote safe, orderly housekeeping in the plant. They are the efficient, economical answer to plant layout problems.

Write today for Information Bulletin No. 55.

WIRE AND IRON PRODUCTS INC.

1727 SIXTEENTH STREET • DETROIT 16, MICHIGAN

For more details circle NED-670 A7 on enclosed inquiry slip

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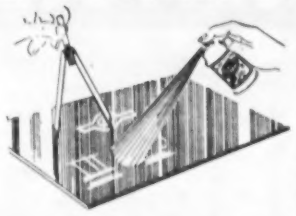
another ZIP SPRAY... ZIP PATTERN LAYOUT FLUID



Spray patterns on all metals and woods with Zip Pattern Layout Fluid and avoid distorting brush marks. Use on any material before "scribing" pattern to be cut. The dye will make the scribed pattern stand out strongly. Don't rely on expensive inefficient brush-on methods — spray it on with Zip Pattern Layout Fluid!

WRITE FOR DETAILS

ALSO:

ZIP RUST STOPPER #1 Protects metal parts for storage.

ZIP RUST STOPPER #2 Protects parts left in machinery for further processing; removes fingerprints.

ZIP BELT LUBE Prolongs belt life; promotes safety and speed.

ZIP STENCIL INK Quick drying — excellent on cartons and metals.

ZIP MOLD RELEASE Releases all parts of injection plastic moldings quickly and completely.

ZIP SPEED LACQUER Identifies all materials with a quick color-coding process.

ZACO LABORATORIES

1360 W. 9th St. • Cleveland 13, Ohio

For more details circle NED-671 A7 on enclosed inquiry slip

WHERE WILL YOU HAVE LUNCH TODAY?

—and what lunch hour seating facilities have you provided for your plant people?

FOLDS UP, ROLLS AWAY WHEN NOT IN USE!

Schieber "Transi-Fold" offers safe, respectable, sanitary seating right in the department. Quality built. Welded tubular understructure. Sanitary surfaces. Used in both large and small plants.

Write for our "In-Plant Feeding" folder

SCHIEBER SALES CO.

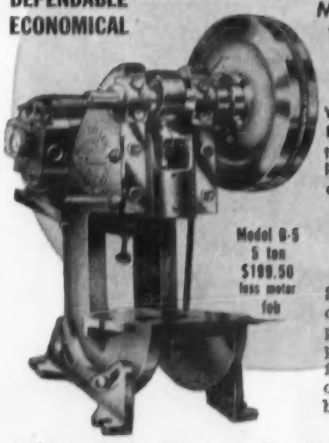
12955 Inkster Rd. Detroit 39, Michigan

For more details circle NED-672 A7 on enclosed inquiry slip

HEAVY DUTY BENCH TYPE

ALLEN PUNCH PRESSES

POWERFUL DEPENDABLE ECONOMICAL



Many Popular Models
1 to 5 ton capacities
Moderate in price

You will find Allen Punch Presses adequate for many types of work now done on larger presses at greater expense.

Model 0-5
5 ton
$199.50
less motor
fob

Fully Guaranteed

See Your Supply Dealer or write for FREE punch press catalog giving complete information, specifications and prices on our complete line of bench type punch presses.

"The Best Machinery Dollar Value on the Market"

Thousands have been Purchased by Leading Manufacturing Companies

ALVA ALLEN INDUSTRIES

Dept. NED, Clinton, Missouri

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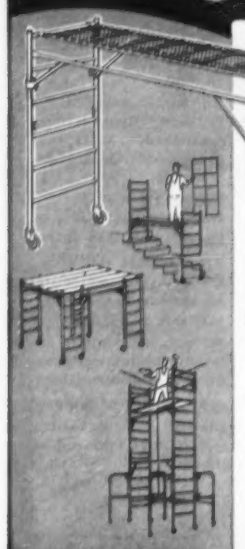
BIL-JAX ALL PURPOSE SCAFFOLD



Unit easily erected by one man . . . can be rolled thru standard doorways . . . straddles desks, files, counters, machines . . . can ride freight elevators . . . all without dismantling. Work surface is no-slip expanded metal.

SALES AND RENTAL OUTLETS IN PRINCIPAL CITIES

EXPORT REP.: MELVIN PINE & CO. 80 Broad St., New York 4, N.Y.

WEST COAST REP.: A. PALMER SCAFFOLD CO. 3928 San Fernando Road Glendale 4, California

"Gets you up in the world"

Send for facts on complete Bil-Jax line.

BIL-JAX, INC. • ARCHBOLD • OHIO

SCAFFOLDING • TRESTLES • HOIST TOWERS • STAGES

For more details circle NED-675 A7 on enclosed inquiry slip

FOR DRIVING RECESSED HEAD SCREWS

MAGNA BIT HOLDERS

Do it quicker, cheaper

Hundreds of leading manufacturers specify Magna-Tip (magnetic) screw holding accessories for their power screw-drivers to push production up, costs down. Here's how Magna-Tip Bit Holders can work for you:

1. Eliminate prepositioning screw
2. Allow faster driving in tight spots
3. Prevent screws from dropping
4. Eliminate screw head burring
5. Increase bit life by reduced slippage
6. Safer . . . operator doesn't hold screw

MAGNA BIT HOLDER U.S. PATENT # 2,550,775

Ask your power screw-driver salesman to show you these handy Magna accessories.

New Manual ready; write Dept. 81-H Complete information on Magna Bit Holders, Finders, Sockets and Hand Screw-drivers. Magna Driver Corp., 779 Washington Street, Buffalo 3, N. Y.

For more details circle NED-676 A7 on enclosed inquiry slip

TWEETEN Marker

THE PENCIL OF 1000 USES

Marks a Mile for

25c

on any surface

Wet * Dry * Frozen

Soft * Hard * Rough

Heavy duty fountain pen size. Extra Long 3½" Colored Refills.

BLACK
RED
BLUE
GREEN
YELLOW
WHITE

The choice of Industry.

Order from your Supplier

TweeTen Fibre Company

2029 W. Fulton St. Chicago 11, Ill.

For more details circle NED-677 A7 on enclosed inquiry slip

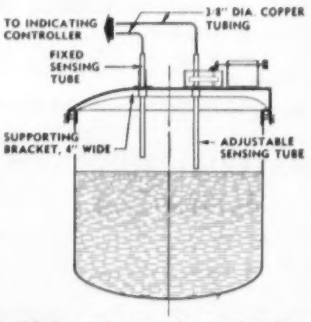
BAND SAW
cuts wood, plastics, metals

Optional speed reducer unit for the No. 56 woodcutting band saw permits conversion of high speed machine to a metalcutting unit with a range of speeds from 50 to 200 fpm and 900 to 3800 fpm in two ranges. Heavy duty machine has a welded steel frame, removable throat piece for adjustment of lower blade guide from above the table and universal motor mount for ½ to 2-hp motors. Both high speed and combination speed machines are driven by a V-belt directly on the band saw wheel. Machine can cut ferrous and nonferrous metals, plastics and wood on its 20 x 24-in. table. Maximum capacity under guide is 12 in., diameter of wheels is 18 in. and table tilt is from 10 to 45 degrees. Made by **J. D. Wallace & Co.**, 801 N. Detroit St., Warsaw, Ind.

For more details circle NED-678 A7 on enclosed inquiry slip

FLUID LEVEL GAGE
never touches fluid being measured

Where physical contact with material being measured is undesirable, this Auto-Level gage can effectively measure, record and maintain level of fluid in tanks, bins, kettles or furnaces. Tube through which a constant air supply flows is lowered near surface of fluid. As level rises it creates restriction to flow of air and causes back pressure to occur within sensing tube. Variation of back pressure is magnified by differential pressure controller with amplifying stage. Second tube, well above fluid level, compensates for change in ambient pressure. Back pressure controls level with simple on-off system. Measurement is accurate to ±1/32-in. Made by **General Glass Equipment Co.**, Dept. C1, 5 S. Virginia Ave., Atlantic City, N. J.



For more details circle NED-679 A7 on enclosed inquiry slip

Self-Locking Socket Screws

Standard Pressed Steel Co.—The Nylok self-locking nylon insert has been incorporated as an optional feature in Unbrako standard and special precision fasteners. 16-page booklet 2193 describes the Nylok principle and suggests applications in which vibration-proof screws can eliminate need for lock washers, wired head and other extras. Sealing against fluid leaks is also shown.

For more details circle NED-680 A7 on enclosed inquiry slip

Drill Hardened Steels without Annealing—

USE The New IMPROVED "HARDSTEEL" DRILL

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

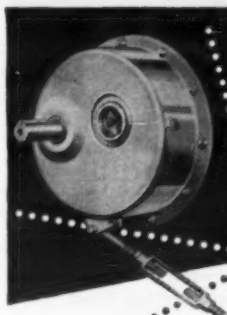
You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, INC.

1380 East 222nd St. • Cleveland 17, Ohio

"HARDSTEEL"

For more details circle NED-681 A7 on enclosed inquiry slip



You can make BIG SAVINGS with Falk All-Steel Shaft Mounted Drives

SIX SIZES
- ½ to 30 hp
- Single or double reduction
- Wide output speed range—420 to 10 rpm

• The rugged, compact, all-steel Falk Shaft Mounted Drive is the ideal answer to countless application problems requiring dependable speed reduction in limited space. It mounts in any position directly on the driven shaft. Its precision helical gearing gives highest mechanical efficiency. No adjustable motor bases or slide rails are needed. Exclusive advanced design permits inspection of gears without dismantling unit from driven shaft or disturbing revolving elements. This versatile, economical reducing unit saves space, power, material and time—its applications are virtually unlimited.

SEND FOR FREE BULLETIN!

Let us send you our illustrated Bulletin 7101, it describes the structural and practical advantages of this all-steel Shaft Mounted Drive—and contains selection tables, application photographs and a wealth of helpful information. Write The Falk Corporation, 3043 W. Canal St., Milwaukee 8, Wisconsin.

FALK

. . . a good name in industry

For more details circle NED-682 A7 on enclosed inquiry slip

PERFECT BALANCE—NO VIBRATION

Reuland Precision Motors are a complete new type especially made for powering machine tools. They are built to precise specifications and are dynamically balanced for vibrationless running. Heavy-duty ball bearings on each side of the rotor retain this characteristic which is so vital to precise work.

These motors are also of the radial air gap design and permit a thinner, light weight, low-inertia rotor. Besides a much shorter over-all, this lighter rotor permits smooth starts and quick stops. (Available in T.E.N.V. and T.E.F.C. Types)

SMOOTH CASTINGS—PLEASING LINES

All castings are especially processed for smoothness and are given a baked enamel finish. This fine-quality finish, together with the motors' naturally pleasing lines, assures a harmonious blend with the lines of every machine on which they are mounted.

Please request Reuland Precision Motor booklet No. PM-1010

Other REULAND firsts!
- Motor with internal fluid coupling
- All-aluminum motor frames
- "Through-Shaft" magnetic disc brakes
- Foot mounted magnetic disc brake complete with bearings and shaft
- Slip Ring motors in small #66 frames

Free general catalog of the COMPLETE Reuland line of *Standard* and *Special* Motors sent on request.

REULAND MOTORS

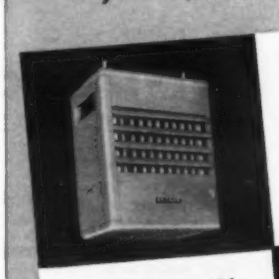
REULAND ELECTRIC COMPANY

Western Division: Alhambra 69, California
Eastern Division: Howell 69, Michigan
Distributors in all principal cities

For more details circle NED-683 A7 on enclosed inquiry slip

REZNOR GAS HEATERS

are the economical answer to your needs for process heat

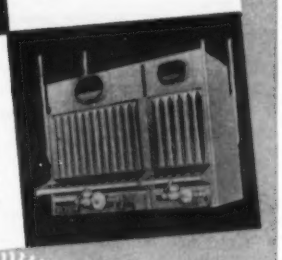


UNIT HEATERS

Complete, packaged units with your choice of propeller fan or centrifugal blower. For use in free air and for duct systems. Nine sizes, 25,000 to 250,000 BTU.

DUCT FURNACES

Compact, highly-efficient automatic gas-fired heat exchangers. Four sizes, 150, 200, 250 and 300 thousand BTU. Sectional assembly allows easy installation of systems with capacities in excess of 2,000,000 BTU.



For complete description and specifications, write for catalog.

REZNOR THE WORLD'S LARGEST-SELLING GAS UNIT HEATERS

Reznor Manufacturing Co., 41 Union St., Mercer, Pa.

For more details circle NED-684 A7 on enclosed inquiry slip

EAGLE

time delay relay

For transmitters and other industrial or aircraft applications. This complete timer (HYS series) passes rigid military tests for accuracy, vibration, shock, salt spray, humidity. Developed for radio and radar transmitters, now available for any application that requires this precision, space-saving timer. Free Bulletin 820, write Dept. NED-157.

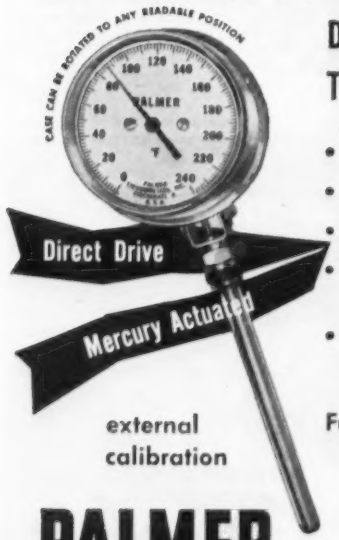
EAGLE SIGNAL CORPORATION
Industrial Timers Division
MOLINE, ILLINOIS

EAGLE TIMERS SAVE TIME . . . SAVE MONEY

For more details circle NED-685 A7 on enclosed inquiry slip

PALMER *presents*

an outstanding improvement in



DIAL THERMOMETERS

- No Sector
- No Pinion
- No Linkage
- Constant Accuracy
- Easy Readability

external calibration

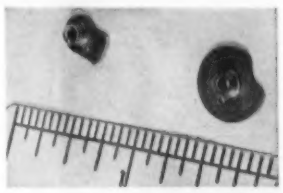
Full 3½" Dial Face

WRITE FOR BULLETIN 350

PALMER THERMOMETERS, INC.
Norwood Ave., Cincinnati 12, Ohio
Mfrs. of Industrial Laboratory Recording and Dial Thermometers

For more details circle NED-686 A7 on enclosed inquiry slip

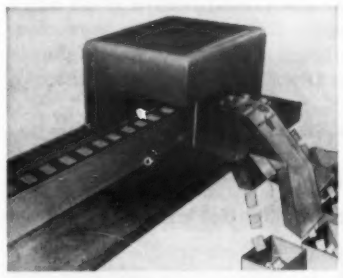
MINIATURE CAMS
14 sizes up to 1 in. diameter



Precision milled miniature cams are now available in 14 different sizes up to 1 in. diameter. Cams have peripheral diameter tolerance of ±0.00075 - in. and a peripheral surface finish maximum of 16 microinches. Made by **L. G. Arpin Co.**, Box 284 N, Caldwell, N. J.

For more details circle NED-687 A7 on enclosed inquiry slip

PARTS CLASSIFIER
inspects and sorts by x-ray beam



Classification of parts into any number of categories with adjustable ranges of thicknesses is performed by the XactRay gage high speed classifier. Accuracy is within 1 per cent of material thickness. Regular or irregular work pieces pass through an x-ray beam whose absorption, proportional to thickness, provides a signal to operate the correct selector gate. X-ray beam area can be adjusted from 1/16 to 1½ in. diameter. Illustration shows sorting table with automatic feed and measuring head with five classifier chutes. Made by **Industrial Gauges Corp.**, X-Ray Div., Dept. N, West Englewood, N. J.

For more details circle NED-688 A7 on enclosed inquiry slip

EDGE CONTROL SYSTEM
for continuously processed materials

Accurate edge registration and web position of all in-process opaque and porous materials such as screening and nonwoven fabrics and plastic films and laminates is provided by Linar Edgetrol photoelectronic edge guidance system. Seven sensing heads enable system operation with any material under any conditions. Since edge detection is by photoelectric means, no force or pressure is applied to material. System adapts to printing, coating, tubing and rerolling, slitting and punching, tentering, intersheeting and manifolding operations. Maintained control accuracy is within 1/32-in. at any speed. Water, vapor and explosion-proof models are available for extreme environmental conditions. Made by **Intercontinental Dynamics Corp.**, 170 Coolidge Ave., Englewood, N. J.

For more details circle NED-689 A7 on enclosed inquiry slip

LOW COST AIR CYLINDER

The Only Air Cylinder

WITH ALL CONTROLS BUILT-IN

This air cylinder is a complete, "packaged" power unit. Electrical switching controls (1), four-way directional valve (2), and independent speed control valves (3), are all a built-in part of the unit. Only one air connection required yet unit is full double-acting. So revolutionary in design it is known as the Bellows Air Motor. Available in five bore sizes: 1¼", 1¾", 2½", 3⅝" and 4½". Virtually any stroke length. Optional choice of mechanical built-in valve controls.

Write today for free 4-color Booklet

Address Dept. NED-157. Ask for Bulletin BM-25. In Canada, write Bellows Pneumatic Products of Canada, Ltd., Toronto, Ontario.

739-B

The Bellows Co.
AKRON 9, OHIO

For more details circle NED-690 A7 on enclosed inquiry slip

JEFFREY CHAINS

a type and size to meet every service requirement

For new installations and for replacements. Stocked for your convenience by Jeffrey distributors at handy locations.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY • COLUMBUS 16, OHIO

For more details circle NED-691 A7 on enclosed inquiry slip

How to pump "handle with care" liquids and semisolids

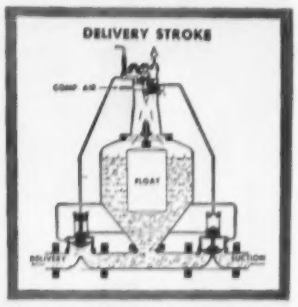
New, air-operated *Ejectopump* works with a powerful yet gentle action—does not churn, whirl or chop the material being pumped. Whole grapes or even live goldfish can be pumped without damage. "Handle with care" liquids such as latex can be pumped without shear or turbulence. Inflammables can be pumped with safety since there are no electrical connections to cause sparks. Ideally suited for pumping highly abrasive and viscous liquids.

Ejectopump needs practically no maintenance. Has no rotating or reciprocating parts, no bearings, no packing, needs no lubrication.

Operation

Connect to compressed air line 30 to 50 psi. Handles discharge heads up to 100 ft., with maximum suction 20 ft. Pump is self-priming, may be installed above level of liquid pumped. Can be furnished in special alloys for pumping corrosives. Sizes: 1½", 2", 3", 4", 6".

WRITE TODAY for complete information and prices.



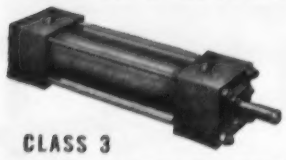
FERRO

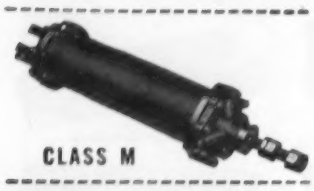
FERRO CORPORATION
Supplies Division
4150 East 56th Street, Cleveland 5, Ohio

Ejectopump
COMPRESSED AIR OPERATED

For more details circle NED-692 A7 on enclosed inquiry slip

NOPAK Hydraulic Cylinders
in 3 Classes of Construction


CLASS 3


CLASS M

CLASS 4

Representatives in Principal Cities

For the Efficient Application of Fluid Power

NOPAK Cylinders for oil or water hydraulic service at line pressures from 450 to 2000 PSI are available in 3 classes of construction to meet your varying needs:

CLASS 3 — Square Head with Tie Rods — Latest addition to the NOPAK Cylinder line . . . Compact construction with square heads of steel plate. Honed steel tubing. Nominally 1000 PSI —to 1500 PSI in the smaller diameters. Dimension Data Sheets now available.

CLASS M — *Mill or Mine Type* — Rugged steel tubing with welded flanges eliminates tie rods. Heads attached to flanges by cap screws or thru bolts. Recommended for all *heavy duty* applications at line pressures up to 650 PSI. Write for Catalog 101.

CLASS 4 — *High pressure Hydraulic* — Heavy honed steel tubing with lock-ring flange. For oil or water hydraulic service at pressures to 2000 PSI. Write for Catalog 104.

GALLAND-HENNING NOPAK DIVISION
2755 SOUTH 31st STREET • MILWAUKEE 46, WISCONSIN

NOPAK
VALVES and CYLINDERS
for AIR and HYDRAULIC SERVICE

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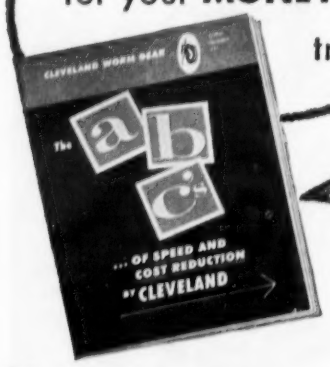
How to get the **MOST** for your **MONEY** in power transmission



Ask for FREE Bulletin 521

The low cost service to be expected from Cleveland Worm Gear Speed Reducers is discussed in this new bulletin. Illustrated with photographs.

Clevelands are available in many standard types and sizes. Sizes range from fractional hp to over 300 hp, ratios to 10,000 to 1, center distances to 21.837". Special designs and larger sizes produced to individual requirements.

THE CLEVELAND WORM & GEAR COMPANY
3283 East 80th Street • Cleveland 4, Ohio
Sales Representatives in all major industrial markets

For more details circle **NED-694 A7** on enclosed inquiry slip

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has been FIRST with every important advancement made in

ELECTRODE HOLDERS

—no wonder then, that thousands of actual users have switched to HI-AMP — they quickly discovered, through experience, that you can't beat a HI-AMP Electrode Holder, regardless of model, when it comes right down to practicability, performance and economy in maintenance.

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(Formerly Wagner Mfg. Co. Inc.)
JACKSON, MISSOURI

Weld with HI-AMP

For more details circle **NED-695 A7** on enclosed inquiry slip

FLUORESCENT MERCURY LAMPS
for high bay industrial use

Golden - white mercury light for high bay industrial lighting is created by two 1000-w semireflector fluorescent mercury lamps. The D-H12-WD 220-v and the D-H15-WD 465-v lamps are coated only on half of lamp nearest the base. Coating acts as downward reflector and also serves as a color-correcting fluorescent coating. Lamps will increase efficiency of system where standard fully coated C-H12 and B-H15 mercury lamps are presently used. Hard glass outer bulb resists water cracks and atmospheric corrosion. Average life is 7000 hours. Made by **Westinghouse Electric Corp.**, Lamp Div., MacArthur Ave., Bloomfield, N. J.

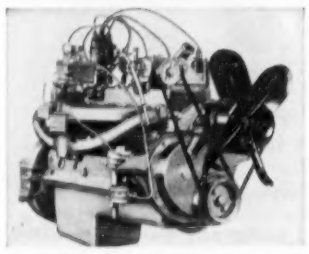
For more details circle **NED-696 A7** on enclosed inquiry slip

AIR COMPRESSOR
produces up to 150 psi and 10.4 cfm

Model 104 duplex cylinder air compressor is operated by a ¾, 1 or 1½-hp motor to provide up to 150 psi and 10.4 cfm. The 2½ x 2-in. unit is built for continuous or intermittent use in spraying, maintenance and other applications. Made by **E. L. Smith & Sons**, Dept. P, Quincy, Ill.

For more details circle **NED-697 A7** on enclosed inquiry slip

INDUSTRIAL ENGINE
is 6-cylinder high torque type



High torque at low speeds is produced by this Jeep heavy-duty 6 - cylinder industrial engine which has 226 cu in. displacement and compression ratio of 6.9:1. Using standard grade of fuels, engine performs with virually no carbon buildup. It has Stellite or Eatonite valve inserts and aluminum alloy pistons, each with a control band which prevents collapse of skirt. Each four-ring piston is fitted with full hard chrome top compression ring and steel rail oil ring. At 1200 rpm, maximum continuous torque is 143 lb-ft with 33 continuous hp. At 2600 rpm, torque is 132 lb-ft at continuous 65 hp. Made by **Willys Motors, Inc.**, Industrial Engine Dept. 1240 N. Cove Blvd., Toledo, O.

For more details circle **NED-698 A7** on enclosed inquiry slip

no fuss...no muss
WHEN YOU BEND WITH A PEDRICK

Pipe, tube and structural bending with Pedrick Production Benders is the smoothest, simplest, cleanest operation you can imagine. Even usually difficult bends are a cinch, and the costs—*really low!*

Write us your bending problem—we think we can supply a cost-cutting answer. PEDRICK TOOL & MACHINE CO., 3640 N. Lawrence St., Philadelphia 40, Pa. Dept. 6.

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PEDRICK production benders

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Profit Maker

Delpark Filter-Matic
TUBULAR SCREEN FILTER

The Delpark Filter-Matic will reduce your operating costs. Here are a few of the ways in which savings can be made.

1. Increased machine efficiency in accuracy and productive time.
2. Reduced maintenance cost in eliminating unnecessary machine wear and reservoir cleaning.
3. Extended grinding wheel and coolant life.
4. Lower coolant operating temperature reduces rejections.
5. Permanent filter media . . . adequate in most cases.

The Delpark Filter-Matic can perform these savings and many others for you. Let a Delpark Field Engineer give you the complete story.

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INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVE. LEBANON, INDIANA

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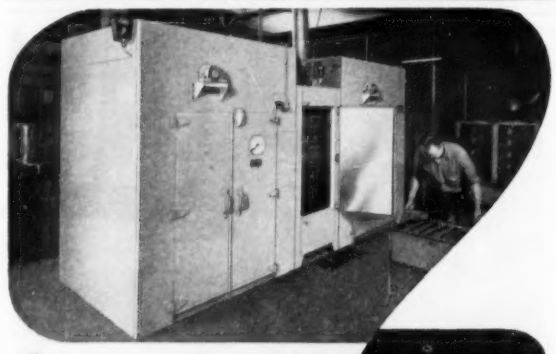


Bake varnishes safely **with DESPATCH OVENS**

Portable Electric Tools, Inc., Chicago, uses six Despatch V-39 ovens and three Despatch RS-1 ovens to bake thousands of electric motor armatures and field coils every day.

The highly volatile gases released by varnishes baking at near 300° temperatures are carried off by the Despatch-designed exhaust system.

The forced exhaust is electrically timed to assure adequate ventilation at peak vapor periods—gravity exhaust carries on in the later stages of baking. Dual thermostatic systems guarantee accurate heat control.

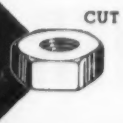
Portable Electric Tools found that the racks designed for the truck loaded V-39 ovens could be conveniently used in the Batch type RS-1 oven—this fact, plus the high efficiency of the units resulted in a 50% production increase after installing the Despatch system.

Send for Bulletin 100

DESPATCH Established OVEN CO. in 1902
DESPATCH OVEN COMPANY
325 Despatch Bldg. • Minneapolis 14, Minn.

For more details circle **NED-701 A7** on enclosed inquiry slip

BRASS AND ALUMINUM NUTS



CUT YOUR ASSEMBLY COSTS with Fischer precision-turned brass and aluminum nuts.

BRASS AND ALUMINUM NUTS

Tapped square with face to Class 2 tolerances for smoother, easier running and superior bearing surface . . .

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Turned from stock under basic size so they're never tight on wrenches . . .

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Tapped through to eliminate "blanks" or rejects . . .

Countersunk on both sides for faster starting . . .

BRASS AND ALUMINUM NUTS

Uniformly accurate. Fischer *turned* nuts cost no more than those produced by other, less accurate methods . . .

there's no premium for precision with *Fischer*

TURNED NUTS Fischer SPECIAL MFG. CO. CINCINNATI, OHIO SINCE 1908

461 Morgan Street, Cincinnati 6, Ohio

C-286-FS

For more details circle **NED-702 A7** on enclosed inquiry slip

engineered to meet your needs

Careful analysis and testing of your product together with experienced RAE Engineers is your assurance of the best motor for the job. RAE offers outstanding service and quality in a large variety of motors in voltages up to 250, and up to 1/8 H.P. (higher for intermittent duty) with many gear head motor combinations. Let us put our years of motor building experience to work for you.

Send for the "RAE" service sheet. It will help you supply the data necessary for recommendations and prices.

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- Gear Reduction Motors
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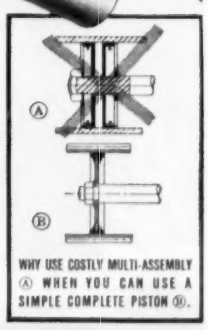
2009-A Kewaunee St., Racine, Wis.

For more details circle **NED-703 A7** on enclosed inquiry slip

DOUBLE ACTING ONE-PIECE ALLIS PISTON CUPS

A single unit piston and cup packing. Made of brass plated steel or solid brass metal disc. Specially compounded rubber is securely bonded to the metal. Designed for oil, air or water applications, lips are designed to maintain uniform pressure on cylinder walls insuring constant sealing action. Used in cylinders—feeds—filling machines, clamps or vises, hoists, pumps, valves, etc.



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BULLETIN 108

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silicone treated tissues

KEEP SAFETY GLASSES CLEAN AND SAFE

Millions of workers now use and prefer Sight Savers. Compact cleaning stations dispense them conveniently and economically. Cleaning stations are Free ($2.50 value) with purchase of Sight Savers. Available from leading Safety Equipment Distributors.

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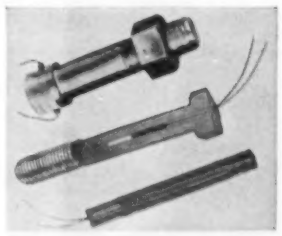
handy Dispenser Pak for your personal use and full information on Sight Saver Cleaning Stations.

Dept. 5413a

DOW CORNING CORPORATION Midland, Michigan

For more details circle **NED-705 A7** on enclosed inquiry slip

LOAD MEASURING UNITS
screws, bolts, rods for up to 425° F



High temperature load-sensitive screws, bolts and rods, capable of operation at up to 425° F, sense tension and compression through a resistance type strain gage potted axially at the center of the part. Accurate direct measurement of bolt load is possible with standard strain measuring instruments. Internal strain gage is relatively insensitive to bending effects, responding only to tension and compression. Gage is protected, waterproofed and shielded. Use is to distribute load evenly, avoid excessive tightening or assure proper loading. Made by **Polyphase Instrument Co.**, Dept. NED, 701 Haverford Rd., Bryn Mawr, Pa.

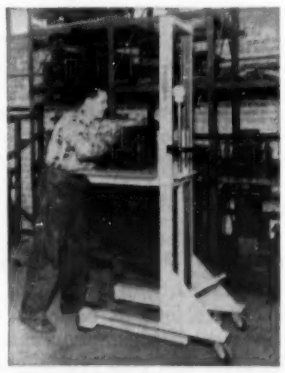
For more details circle **NED-706 A7** on enclosed inquiry slip

WATER TEMPERING VALVE
controls hot-cold water mixtures

Water at any desired temperature, adjustable to 180° F, is delivered by this model 110 mixing valve. Durable, corrosionproof Dura-Trol thermostatic element controls mixing of cold water from line and hot water from tank or heater to preselected temperature. Units are available in 1/2 or 3/4-in. sizes for sweat connection and in 1/2 to 2-in. pipe threads. Made by **Leonard Valve Co.**, 1362 Elmwood Ave., Cranston 7, R. I.

For more details circle **NED-707 A7** on enclosed inquiry slip

PORTABLE ELEVATOR
operated by hydraulic foot lift



Loads up to 750 lb can be lifted by the Barrett hydraulic foot lift portable elevator. Large oil reservoir is built into the base. Oil wipers are provided at the top of the ram, with an overflow tube back to the reservoir. Built with a welded steel frame, elevator has an overall height of 83 in., a lifting height of 71 in. and a 24 x 24-in. platform. The 270-lb unit is easily moved on antifriction bearing wheels. Made by **Barrett-Cravens Co.**, 628 Dundee Rd., Northbrook, Ill.

For more details circle **NED-708 A7** on enclosed inquiry slip

Stop dangerous handling of INDUSTRIAL LIQUIDS

You can stop dangerous handling of liquids with Tokheim high vacuum pumps. Their use in maintenance work will help prevent spilling, slopping, over-filling and dripping—all enemies of safety. This means your plant can be kept cleaner—work is speeded—waste halted—accidents prevented.

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Canadian Distributor: H. Reeder, 205 Yonge St., Toronto, Ont.

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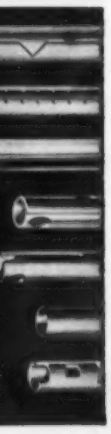

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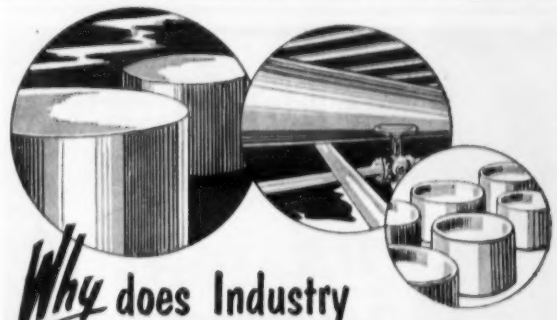

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DRUM of 25 lbs. lb.	.45
DRUM of 50 lbs. lb.	.40
DRUM of 100 lbs. lb.	.40
DRUM of 300 lbs. lb.	.37

Slightly higher on Pacific Coast.

For more details circle **NED-711 A7** on enclosed inquiry slip

OPW visi-flo

One Look to Know!

OPW VISI-FLO sight glass indicators are a trustworthy visible means of alerting you as to rate of flow, viscosity, color of liquids, clarity, and purity of product.

OPW VISI-FLO protects you against line stoppage, helps maintain uniformity, a high standard of product quality and an even continuity of production.

Write Write for free Bulletin F-6 describing complete VISI-FLO line, from plain types to magnetic indicating types.

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INDUSTRIAL SALES DIVISION OF OPW CORP.

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MBC BENCH MODELS

FIVE SIZES of removable BIN BOXES

Visible parts handling saves time and money!

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FLOOR MODELS

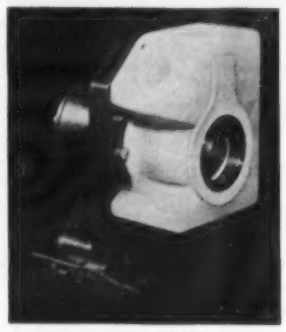
DEALERS IN PRINCIPAL CITIES

B-4 STANDARDIZED BY AMERICAS LEADING MANUFACTURERS

BATHEY MFG. CO.
100 S. MILL STREET PLYMOUTH, MICH.

For more details circle NED-713 A7 on enclosed inquiry slip

CORROSIVE FLUID PUMP
fluids contact only Teflon or Kel-F



Elimination of shaft seals and stuffing boxes in this pump means that extremely corrosive fluids or slurries are isolated in a passage formed by the outer surface of the Kel-F liner and the inner surface of the Teflon or Kel-F body block. An eccentric shaft and rotor assembly rotates within the liner and progressively pushes the fluid about its outer surface. Materials resist temperatures up to 300° F and such corrosive fluids as strong oxidizing and mineral acids, alkalies, aliphatic and chlorinated solvents, fuels, hydraulic fluids and red fuming nitric acid. Capacities are up to 5 gpm with pressures to 50 psi. Pumps are offered with constant or variable speed electric or air motor drives. Made by **Vanton Pump & Equipment Corp.**, Dept. NED, 201 Sweetland Ave., Hillside, N. J.

For more details circle NED-715 A7 on enclosed inquiry slip

SURFACE GRINDER
handles 8 x 24-in. workpieces

Dial controlled table speed is infinitely variable from 5 to 75 fpm on the Reid-O-Matic 824 surface grinder. Crossfeed drive is adjustable from 0.001 to 0.125-in. by selector switch controls at both ends of the table travel. Production and tool room grinder handles workpieces up to 8 x 24 in. on its 66 x 10¼-in. work table. Table traverse is through an electric clutch transmission and timing belt drive. Other features are low pressure automatic lubrication, 2-hp cartridge type motorized spindle with 4-in. diameter barrel, electric controls in a sealed cabinet, elevating hand wheel with slip ring and vernier, crossfeed selector buttons, automatic or hand table traverse and power control of all adjustments. Made by **Reid Brothers Co.**, Elliott St., Beverly, Mass.

For more details circle NED-716 A7 on enclosed inquiry slip

Contact Materials & Assemblies

Metals & Controls Corp., General Plate Div.—Main classifications of products made by this division are illustrated in company catalog. Details are provided on solid and clad precious and base metals, industrial metals, electrical contacts, contact parts and assemblies, thermostat metal, thin gage metals and rolled gold plate.

For more details circle NED-717 A7 on enclosed inquiry slip

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For more details circle NED-719 A7 on enclosed inquiry slip

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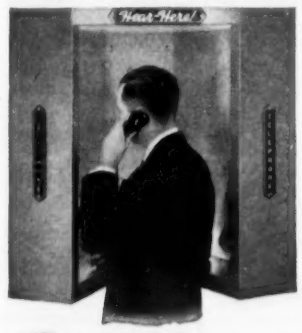
More than "just a phone booth," every Burgess-Manning "HEAR-HERE" Booth is a room of "Quiet." They have been carefully studied from an acoustic standpoint and you will completely eliminate all interfering outside noise when you step inside. And notice too—



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5968 Northwest Highway, Chicago 31, Illinois

Manufacturers of 3-Way Functional Ceilings and Acousti-Booths for Telephoning

For more details circle NED-720 A7 on enclosed inquiry slip

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and thousands of others!

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For more details circle NED-714 A7 on enclosed inquiry slip

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For more details circle NED-718 A7 on enclosed inquiry slip

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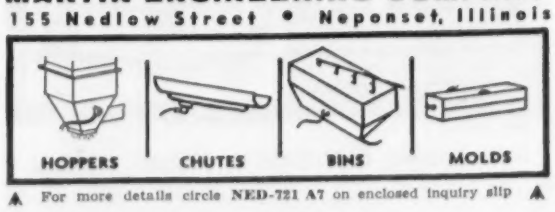
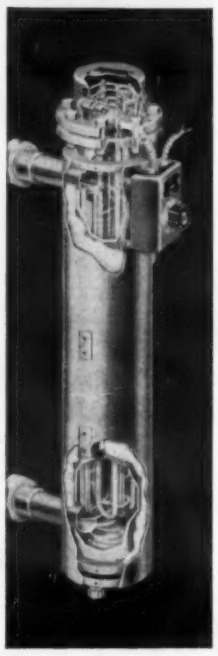
MARTIN ENGINEERING COMPANY
155 Nedlow Street • Neponset, Illinois



For more details circle NED-721 A7 on enclosed inquiry slip

measured quantities of heat quickly • accurately • to 750°F

CHROMALOX Electric CIRCULATION HEATERS



Used for preheating oil—heating water—generating, superheating and drying steam—heating process kettles and tanks—heating Dowtherm, Aroclor, Prestone and similar heat transfer liquids—heating air, nitrogen and other gases.

Easy to install, operate and maintain, these compact, packaged heating units are automatic and self-contained—with built-in heating elements, heating chamber, thermostat, and insulation. Provide dependable round-the-clock operation. Ideal for converting steam or gas-heated equipment to automatic electric operation.

Let the Chromalox Sales-Engineering staff solve your heating problems . . . electrically.

Write today for your copy of Bulletin 701

for information on Chromalox electric heat exchangers and their applications.

For complete line of Chromalox heaters and controls—request Catalog 50.

Edwin L. Wiegand Company

A-4479 7509 Thomas Boulevard, Pittsburgh 8, Pennsylvania See other ad on page 4

For more details circle NED-722 A7 on enclosed inquiry slip

BROOK MOTOR CORPORATION

SINCE 1904

3553 W. PETERSON AVE.
CHICAGO 45, ILL.

world's most respected motor

1 TO 600 H.P. A.C.

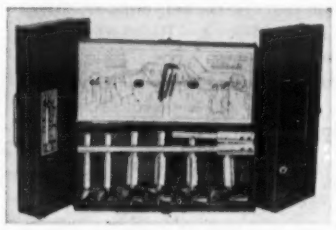
For more details circle NED-723 A7 on enclosed inquiry slip

ORBITAL SANDER
operates at 6000 cpm on 40 psi air

Weighing only 3 lb, model 800 orbital pneumatic sander can be used by women operators without fatigue. Unit operates at 6000 cpm on 40 psi air pressure. Air consumption is 5 to 7 cfm. Palm lever control allows use of sander in restricted areas. Unit can be used for wet sanding if separate water supply is available. It takes a 3 x 8-in. sheet of sandpaper. Made by **Sundstrand Machine Tool Co.**, Pneumatic Div., 2574 Eleventh St., Rockford, Ill.

For more details circle NED-725 A7 on enclosed inquiry slip

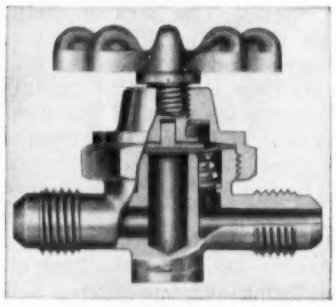
BORING TOOL SET
has six bits for ½ to 2-in. holes



Six Planetor wood-boring bits for boring standard pipe-size holes from ½ through 2 in. are securely held in place in this Master Fitters boring set. Also included are extra 5½ and 12-in. shank extensions, spare pilots and set screw keys. In using the cased set, mislaid or missing tools are immediately apparent, and damage to pilots, spurs and cutting edges is avoided. Contact portions of case are aluminum-lined to minimize bit damage. Case is compact, weighs less than 6½ lb and has an integral carrying handle. Offered by **Price & Rutzebeck**, 22150 Meekland Ave., Hayward 79, Calif.

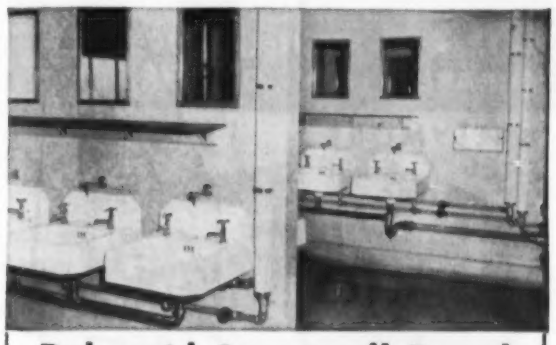
For more details circle NED-726 A7 on enclosed inquiry slip

PACKLESS VALVE
features unrestricted flow



Flare and other types of end connections are offered on this compact diaphragm packless valve for refrigeration, charging board, gage shutoff, vacuum and hazardous fluid service. The ¼ to ⅝-in. sizes are made of forged brass with full capacity in-line inlet and outlet ports. Other features are nonrotating floating bearing plate, Teflon diaphragm and stainless steel spring. Made by **Henry Valve Co.**, Dept. NED, 3215 North Ave., Melrose Park, Ill.

For more details circle NED-727 A7 on enclosed inquiry slip



Ruberoid Stonewall Board
KEEPS MAINTENANCE COSTS DOWN

The walls of this plant washroom prove again the economy of Ruberoid Stonewall Board for in-plant partitioning. Made of asbestos-cement, Stonewall is ideal for wall surfaces where excessive dampness and corrosion shorten the life of other materials.

Industrial maintenance men everywhere are learning that it pays to use fireproof, rot-proof Stonewall Board for all interior partitioning. Since it never needs painting—no matter what its location—Stonewall means big maintenance savings year after year.

Investigate the benefits of Stonewall Board yourself. Write for details about its low cost installation and no-cost maintenance.

The RUBEROID Co.
500 Fifth Ave., New York 46, N. Y.

ASPHALT AND ASBESTOS BUILDING MATERIALS

For more details circle NED-728 A7 on enclosed inquiry slip

Picture above shows Truco vacuum water pick-up removing cuttings and coolant water as Truco unit is drilling. Because Truco is dust-free and relatively quiet, drilling was done in occupied sections of the building without disturbing tenants.

Job superintendent reports, "No other equipment could do the job the diamond drill performed on this project. It shaved weeks off our schedule and reduced our drilling costs materially."

TRUCO Drills 2½" Holes in 90 Seconds on 8,400 Outlet Electrical Project

JOB: Penetrate 3½" concrete cap over cellular steel flooring for 2½" dia. electrical outlets at Ford Motor Company's new Administration Building. 8,400 holes required to bring in electrical, telephone and intercom wiring for offices.

CONTRACTOR: Harlan Electric Company, Detroit

TOOLS: Truco Diamond Drilling Machine equipped with 750 RPM Motor and 2½" O. D. Truco Diamond Drill Bits. (Machine was also used for horizontal drilling).

DESCRIPTION: Spotting crews located outlets and cut the rubber floor tile with a circular saw. Portable rubber-tired Truco Diamond Drilling Machine then drilled through concrete in 90 seconds per hole. Complete cores were lifted out leaving smooth, perfect holes, requiring no patching or finishing. Finished floor undamaged by drilling operation.

WRITE FOR NAME OF NEAREST DISTRIBUTOR

WHEEL TRUEING TOOL CO.
93-3200 W. Davison Ave., Detroit 38, Michigan

8th Natl. PLANT MAINTENANCE & ENGINEERING SHOW Cleveland, Jan. 28-31

For more details circle NED-724 A7 on enclosed inquiry slip

a good policy for BOILER INSURANCE

Yarway Remote Liquid Level Indicators protect your boilers by giving instant . . . accurate . . . continuous remote readings of boiler water levels anywhere in the boiler plant. No special liquids required. Compact installation . . . minimum space needed.

New "wide vision" face permits readings from any angle. Pointer always visible, even in the dark and at extreme high or low water levels. Hi-Lo signal alarms available. The best protection . . . proved beyond doubt by nearly 10,000 installations.

Write for Bulletin WC-1824.

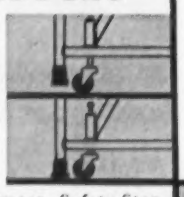
YARNALL-WARING COMPANY
131 Mermaid Ave., Philadelphia 18, Pa.
BRANCH OFFICES IN PRINCIPAL CITIES

YARWAY REMOTE LIQUID LEVEL INDICATORS

For more details circle NED-729 A7 on enclosed inquiry slip

SAFE • CONVENIENT
DURABLE • LOW COST

BALLYMORE SAFETY-STEP LADDERS



Ballymore Safety-Step Ladders are available in a wide variety of sizes and models to meet working-height requirements up to 11'6". They are easily moved on rollers, but with no danger of "kick-out."

Made of all-welded ¾" steel tubing for maximum strength. Rust-resistant aluminum coating gives a durable, attractive finish. Handrails on 2- through 8-step models. Three treads available: expanded steel, grip steel lath, and rubber-clad steel plate.

Write for specific information to Ballymore Company, West Chester 3, Pa.

BALLYMORE LADDERS

THE STANDARD BY WHICH SAFETY LADDERS ARE JUDGED

For more details circle NED-730 A7 on enclosed inquiry slip

The RAYMOND CORPORATION
4119 Madison St., Greene, N.Y.

Please send me your new "User's Report" describing the handling of _____ (PRODUCT)

NAME TITLE

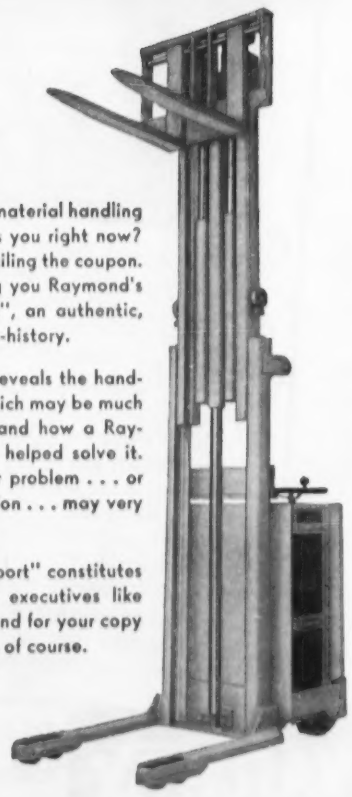
COMPANY

STREET

CITY STATE

CLIP & MAIL THIS COUPON
Before you buy another electric truck . . .

HOW HAVE OTHERS



SOLVED the material handling problem which faces you right now? You'll find out by mailing the coupon. Because it will bring you Raymond's new "User's Report", an authentic, fully-illustrated case-history.

This concise report reveals the handling of a problem which may be much like your own . . . and how a Raymond Electric Truck helped solve it. The solution to your problem . . . or an idea for its solution . . . may very well be described.

Our new "User's Report" constitutes "must" reading for executives like yourself. Why not send for your copy now? No obligation, of course.

For more details circle NED-731 A7 on enclosed inquiry slip

New Literature and Catalogs

Formica on Walls

Formica Corp.—New adhesives and installation techniques now adapt Formica for installation on existing wall surfaces or base materials. Two illustrated bulletins "Formica Takes to the Walls" and "How to Apply Formica to Walls with New Color-Blended Moldings" deal with the use of this durable, practical, attractive plastic laminate for all types of interiors.

For more details circle NED-732 A7 on enclosed inquiry slip

Analyzing Plating Solutions

Hanson-Van Winkle-Munning Co.—36-page illustrated bulletin "Simple Methods for Analyzing Plating Solutions" outlines the necessary steps involved in 28 analytical methods for testing nickel, copper, silver and other metal finishing solutions. Related plating data and equipment are covered.

For more details circle NED-733 A7 on enclosed inquiry slip

Terminal Blocks & Block Kits

Curtis Development & Mfg. Co.—Technical descriptions, specifications and current prices for entire line of terminal blocks and terminal block kits are contained in condensed catalog 556 of 8 pages. Chart aids in selection for a specific application.

For more details circle NED-734 A7 on enclosed inquiry slip

Air Compressors

Binks Mfg. Co.—Industrial and portable air compressors are detailed in 16-page illustrated catalog 820. Basic considerations recommended in the selection of an air compressor are cited. Selector chart indicates the most efficient size compressor according to use and compressor pressures needed for various jobs.

For more details circle NED-735 A7 on enclosed inquiry slip

Vises & Work Holding Fixtures

Universal Vise & Tool Co.—Machine tool vises, angle vises, adjustable angle plates, adjustable lathe fixtures, safety work-holders for drill presses, quick-acting vises, large capacity mill table vises and parallel clamps are some of the work holding equipment described in 16-page illustrated catalog 9156. Prices are given.

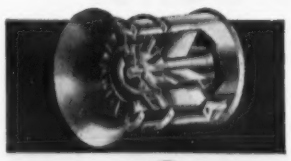
For more details circle NED-736 A7 on enclosed inquiry slip

SAE Boss Fittings

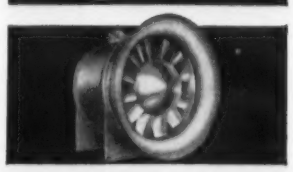
Anchor Coupling Co.—Line of SAE boss fittings and O-ring adapters offered in wide range of sizes and styles is described and illustrated in 12-page catalog. They meet new SAE straight thread boss standards. Also shown are Anchor tube nuts, offered in short nut, SAE long nut and three-piece assembly styles.

For more details circle NED-737 A7 on enclosed inquiry slip

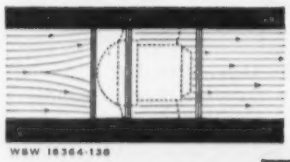
CHANGE VOLUME OR PRESSURE WITH JOY AXIVANE FANS
Adjustable blades can be set on the job.



SAVE SPACE
The motor is inside . . . entire fan mounts inside ductwork . . . no foundations, offsets, drives, or guards.



SAVE LABOR
Simple, in-line design means quick, economical installation—even with inexperienced labor. Extremely low maintenance.



SAVE POWER
No belt power loss . . . high efficiency requires less power. Adjustable blades can correct for poor ductwork or unpredictable resistance.

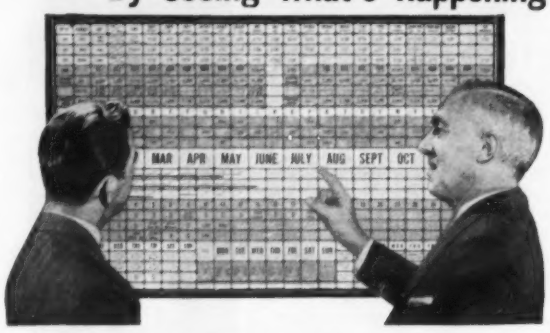
WSW 18364-126

Find out More about Joy High-Performance Fans . . . Get FREE BULLETIN
138-54

JOY MANUFACTURING COMPANY
Oliver Building, Pittsburgh 22, Pa.
In Canada: Joy Manufacturing Company (Canada) Limited, Galt, Ontario.

For more details circle NED-738 A7 on enclosed inquiry slip

You Get Things Done Better By Seeing What's Happening



BOARDMASTER VISUAL CONTROL

★ Gives Graphic Picture of Your Operations in Color.
★ Facts at a Glance—Saves Time and Prevents Errors.
★ A Simple, Flexible tool—Easily Adapted to Your Needs.
★ Easy to Use. Type or Write on Cards, Snap on Board.
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★ Compact, Attractive. Made of Metal. Over 100,000 in Use.

Complete Price $49.50 Including Cards

FREE 24-Page ILLUSTRATED BOOKLET N-400 Without Obligation

GRAPHIC SYSTEMS, 55 West 42nd St., New York 36, N. Y.

For more details circle NED-739 A7 on enclosed inquiry slip

EVERY ENGINEER will want a copy of this new BULLETIN

It's easy to get the right answer for even your most special *flexible piping jobs* when you use this new engineering catalog on BARCO SWIVEL JOINTS. It is complete with pictures and diagrams showing correct application and contains all specification data for *improved* Barco Swivel Joints:

- Leakproof! Perfect Sealing—Hot or Cold.
- No Binding, Low Torque! Trouble-free.
- Self-Aligning! Simplifies Installation.

Send for a copy of new Catalog No. 265A and complete information. BARCO MANUFACTURING CO., 530B Hough St., Barrington, Illinois.

BARCO LEAKPROOF SWIVEL JOINTS

For more details circle NED-740 A7 on enclosed inquiry slip

LUNKENHEIMER OILERS
Automatic protection against bearing damage!

Fig. 1300 Sight Feed Oil Cup

Fig. 1834 Constant Level Oil Control

Lunkenheimer Oilers take the guesswork out of bearing protection because they feed automatically. Oil flow is regulated to prevent over-supply, leakage, and oil splatter. And there's a Lunkenheimer oiling device for every purpose—bottle oilers for plain bearings . . . constant level controls for ring-oil bearings. For details and literature, write the Lunkenheimer Co., Box 360, Cincinnati 14, Ohio.

L-956-12

Fig. 1815 Globe Body Bottle Oiler

LUNKENHEIMER®
THE ONE Great NAME IN VALVES

For more details circle NED-741 A7 on enclosed inquiry slip

A steel fabricator replaced an I-beam crane system with modern Cleveland Tramrail equipment and thereby doubled his tonnage output. This is a typical story, because regardless of size or type, most Cleveland Tramrail installations pay for themselves within a few months.

GET THIS BOOK!
BOOK No. 2008
Packed with valuable information

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6639 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

For more details circle NED-742 A7 on enclosed inquiry slip

How To REDUCE WIRE RE-ROPING COSTS

Write for this catalog

In it, you'll find fittings for fastening wire rope, cable, or strands so they hold fast. Regardless of the type you choose, all effectively dampen vibration stresses—reduce frequency of re-roping—and eliminate loose or frayed wire troubles. Easily installed with ordinary tools. Highest holding strength of known fittings.

Write today for your copy . . . no obligation.

Electroline COMPANY

4121 SOUTH LASALLE STREET • CHICAGO 9, ILLINOIS
In Canada: Powerlite Devices, Ltd., Toronto

For more details circle NED-743 A7 on enclosed inquiry slip

No "Plumbing" Needed for the HW-17 HELIARC Torch

handles up to 150 Amperes

Here is the only air-cooled torch available for inert gas shielded arc welding with currents up to 150 amperes. With a continuous-duty capacity of 130 amperes (150 amperes for a reduced duty cycle), the HW-17 handles many jobs that formerly required a water-cooled torch. Elimination of external "plumbing", drain lines, mobile water pumps, and the like, cuts original installation costs almost in half and drastically reduces everyday maintenance costs.

The HW-17 is a shock- and heat-resistant torch fully capable of absorbing the hard knocks of all service within its range. A twist of the torch cap provides easy adjustment of 7- or 3-inch electrodes. *See your local LINDE representative today, or write for further information.*

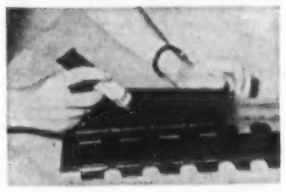
LINDE AIR PRODUCTS COMPANY
A Division of
Union Carbide and Carbon Corporation
30 East 42nd Street UCC New York 17, N. Y.
Offices in Other Principal Cities

The terms "Linde" and "Heliarc" are registered trade-marks of Union Carbide and Carbon Corporation.

For more details circle NED-744 A7 on enclosed inquiry slip

New Processes and Materials

HEAT INDICATING PAINT
color changes with heat application



Developed for application to heat treated parts that have been electroplated, pickled or phosphate treated, Tempa-Dot heat indicating paint provides visible color-change proof that each part has been baked properly to relieve hydrogen embrittlement. It is packaged in a spot applicator tube, appearing as a bright red dot before baking. A ±25° F deviation can be shown. Made by **EverLube Corp.**, Hart & Farmdale Ave., North Hollywood, Calif.

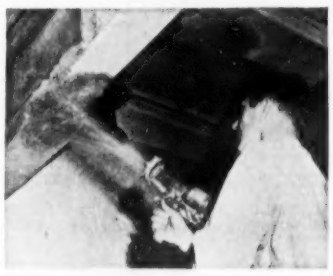
For more details circle NED-745 A7 on enclosed inquiry slip

BLACK SPIRIT CARBON
produces 100 or more copies

One hundred or more cleancut black-on-white copies can now be produced on any liquid or spirit duplicator with Black Hi-Gloss nonstaining carbon. Carbon surface and edges are chemically sealed to prevent smearing or smudging on hands, clothes or paper. Preparation of masters is the same as for conventional purple spirit carbon. Black Hi-Gloss is recommended particularly for accounting reports and systems where black copies are preferred. It is available in 8½ x 11-in. and 8½ x 14-in. sizes and in single carbon sheets or in Masterset (carbon plus white master) form. Made by **Ditto, Inc.**, Dept. WS, 6800 N. McCormick Rd., Chicago 45, Ill.

For more details circle NED-746 A7 on enclosed inquiry slip

FIRE RETARDANT COATING
for protection of structural steel



Structural steel members and steel floor units can be fireproofed and protected against corrosion by sprayed Limpet asbestos, a coating comprised of pure asbestos fibers combined with an inorganic hydraulic-setting bonding material. Thickness of coating is varied to provide the desired rating in hours of fire protection. Material is UL-rated. Application to any surface is by blowing under pressure through a special spray machine to produce a continuous lightweight felt-like coating. Distributed by **Keasbey & Mattison Co.**, Maple St., Ambler, Pa.

For more details circle NED-747 A7 on enclosed inquiry slip

NOW ONE CHECK VALVE for all requirements

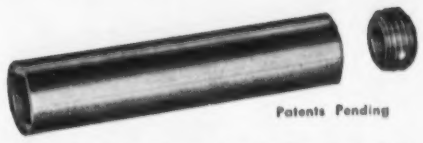
This DURABLA BASIC CHECK Unit, added to any standard fitting (such as the reducing coupling shown here) gives you a complete valve *suitable for ANY* service. Because DURABLA Check Valves will operate in any position, they can be installed without changing existing lines. Made of stainless steel, they will handle practically any liquid, gas or air—at all temperatures and pressures.

Available in seven standard line sizes, from ⅜" to 2". Write for complete information.

DURABLA® MANUFACTURING COMPANY
114 Liberty Street, New York 6, N. Y.
DM-10

For more details circle NED-748 A7 on enclosed inquiry slip

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!



Patents Pending

One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES: 3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, 1"

Write for Literature

STURDY BROACHING SERVICE, INC.
23514 TELEGRAPH RD., DETROIT 19, MICH.

For more details circle NED-749 A7 on enclosed inquiry slip

Over 85% of the torque wrenches used in industry are

STURTEVANT TORQUE WRENCHES
Read by Sight, Sound or Feel

- Permanently Accurate
- Practically Indestructible
- Faster—Easier to use
- Automatic Release
- All Capacities

in inch grams
...inch ounces
...inch pounds
...foot pounds

Every manufacturer, design and production man should have this valuable data. Sent upon request.

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

For more details circle NED-750 A7 on enclosed inquiry slip

STOP STATIC ELECTRICITY With STATIKIL

PUSH BUTTON and SPRAY

Trademark Reg. in U.S. Pat. Off.
THE ORIGINAL — THE ONLY

for

- Processing of plastics, textiles, chemicals, cellophane, paper, printing, etc., where static disorganizes processing.
- Meter and instrument housings where static disorganizes recordings.
- Floor impregnation where rolling trucks, castors, etc., generate static charges.
- Spark retardent in hazardous operations.

$3 a can
$30 per dozen (spray)
$15 per gallon (Fluid)

STATIKIL Division of J. E. Doyle Company
1220 West 6th St., Cleveland 13, Ohio

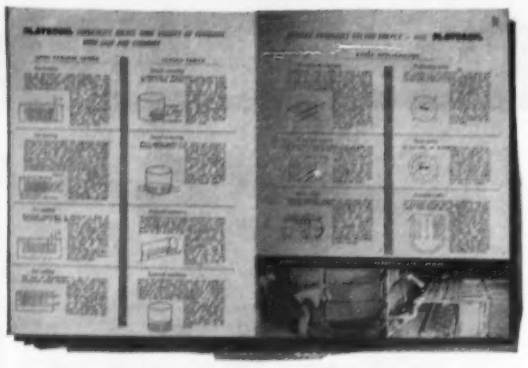
Mail Coupon Today

Send the following (please check): ned
☐ Free Literature ☐ One case of spray cans @ $30
☐ One spray can $3 ☐ One bulk gallon @ $15

Name _____
Company _____
Address _____
City _____ State _____

Used By Hundreds Of Leading Plants

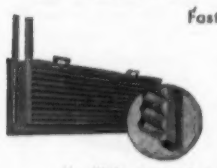
For more details circle NED-751 A7 on enclosed inquiry slip



New Heat Transfer Sketch Book shows how to CUT COSTS all over the plant

Platecoil heat transfer units can be used in many ways, in many tanks, in many plants in many industries. The sketches shown above indicate some of the ways in which Platecoil has been used and can be used. They are featured in a new Platecoil bulletin that also contains many pictures, drawings and information on Platecoil installations and features. Send today for your free copy. Ask for Bulletin P-57.

Fast delivery from stock



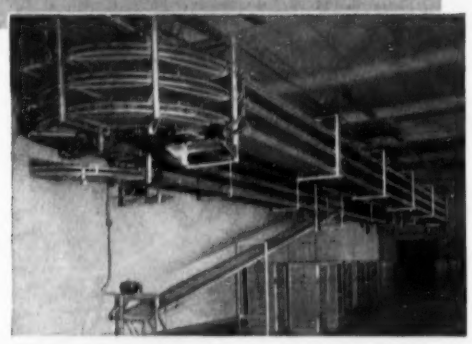
PLATECOIL® Division Tranter Mfg. Inc. LANSING 4, MICHIGAN

You'll Find our Catalog in Sweet's Plant Engineering File.

▲ For more details circle NED-754 A7 on enclosed inquiry slip ▲

WENDWAY

the conveyor that pays for itself!



Wendway is perfectly suited to the cooling of raw products, packages or containers. This spiral system travels at ceiling height to conserve floor space.

This small, single tier Wendway conveyor is used to convey small packages from bag loaders through a series of stapling machines.

A typical package conveyor installation, this three-tier Wendway system extends throughout the plant and carries a steady flow of products to waiting trucks.

● You'll be amazed at how quickly a Wendway conveyor system will pay for itself in your plant. A Wendway system will eliminate multiple handling of products, save man hours and floor space—all while conveying your products swiftly, silently, safely and *economically* to any desired location.

Wendway is Industry's most versatile conveyor. Its steel wire belting is ideal for any light product, carton, food, etc., up to twenty pounds per unit. It does not sag or accumulate dirt like ordinary belting and can be kept highly sanitary.

Will it work efficiently in you plant? Certainly! Prove it to yourself by returning the coupon below for additional information about Wendway—today!

Gentlemen: Please send me additional information about Wendway for conveying _____

Name _____

Company _____

Address _____

City _____ Zone ____ State _____

Please have a USP Conveyor engineer contact me at once ☐

UNION STEEL PRODUCTS COMPANY
ALBION, MICHIGAN

▲ For more details circle NED-755 A7 on enclosed inquiry slip ▲

New Literature & Catalogs

Carbon-Graphite Design Data

United States Graphite Co.—Graphitar, a carbon-graphite engineering material, is described as to its physical properties and suggested uses in illustrated technical bulletin No. 20. Wide range of properties adapt this material for antifriction bearings and industrial components.

▲ For more details circle NED-756 A7 on enclosed inquiry slip ▲

Replacement Capacitors

Cornell-Dubilier Electric Corp.—Electrolytic, paper tubular, industrial, mica, ceramic, filter and motor start capacitors for replacement in electronic, industrial and other equipment are tabulated in 1957 catalog 200D-3. This 44-page guide is sectionalized and thumb-indexed for quick reference.

▲ For more details circle NED-757 A7 on enclosed inquiry slip ▲

Acoustical Metal Sheets

Diamond Mfg. Co.—Correct method of applying Diamond perforated metal sheets for constructing acoustical ceilings, walls and enclosures is explained in 6-page illustrated bulletin 45. This attractive patterned material is available in range of styles in ferrous and nonferrous materials.

▲ For more details circle NED-758 A7 on enclosed inquiry slip ▲

Miniature Incandescent Lamps

Hudson Lamp Co.—Miniature lamps for flashlight, control panel, toy train, pilot, automotive and other services are described in 8-page catalog. Chart for design engineers graphically illustrates how lamp characteristics change with variations in applied voltage. Lamps are designed for original equipment use.

▲ For more details circle NED-759 A7 on enclosed inquiry slip ▲

Thermal Time Delay Relay & Thermostat

Curtiss-Wright Corp., Electronics Div.—Design, performance and application data on Snapper thermal time delay and thermostat are given in series of bulletins on these precision temperature control devices which are available in open and sealed types.

▲ For more details circle NED-760 A7 on enclosed inquiry slip ▲

Solderless Wiring Devices

Electric Terminals Corp.—"Solderless Wiring Devices" is title of 8-page bulletin which describes and gives sizes and specifications on complete line of solderless terminals and connectors for crimping onto wire extremities.

▲ For more details circle NED-761 A7 on enclosed inquiry slip ▲

Carbide Grades Chart

Chicago-Latrobe — Available "Carbide Grades Chart" of carbide grade recommendations shows grades and numbers of twelve manufacturers. Grades are categorized for chip removal, wear and impact applications.

▲ For more details circle NED-762 A7 on enclosed inquiry slip ▲

INDICATING MICROMETER COMPARATOR

has the VISIBLE feel

The "MASTER COMPAR"

A RIGHT HAND TOOL
Release button for movable Anvil on RIGHT Hand side enables you to hold tool the conventional way.
NEW—
Resetting to Zero in 5 seconds.
Quick adjustable tolerance bands.
Heavy TUNGSTEN CARBIDE Anvils will actually measure Out-of-Roundness, Ovalness & Taper.

1" Range reading in 1/10,000"

0-1" SIZE IN HARDWOOD CASE

$105

Also Available in LARGER SIZES

The New No. 101 MAUSER VERNIER CALIPER

- Quick acting cam lock
- Long open face slide
- Measuring capacity 5-5/16" outside, inside and depth
- 3 graduations: 1/1000" - 1/128" and 1/10 mm in back
- Specially long Vernier to read the thousandths
- Hardened Phosphor-Bronze adjustable gib retains accuracy

LATEST IMPROVED MODEL

MADE ENTIRELY OF STABILIZED, RUST-RESISTANT STAINLESS STEEL

The fine finish will not tarnish or deteriorate in many years of use.

New dull chrome Vernier slides finished for easy reading at no additional cost.

$14.75 PPD

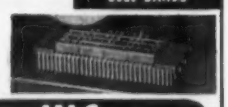
SPEED SURFACE GRINDING SET-UPS WITH

MAGNE-BLOX

Laminated Parallels V-Blocks & Angle Irons

UNIVERSAL SET $26.25 In Case Code GANBO

- Grind Work Square
- Grind Work Parallel
- Hold Round Pieces
- Save your Magnetic Chucks
- Eliminate Clamps
- Eliminate Holding Devices



GEO. SCHERR CO., INC.
COMPLETE LINE OF PRECISION INSTRUMENTS
200-ND LAFAYETTE ST. • NEW YORK 12, N.Y.

WRITE FOR FULLY ILLUSTRATED LITERATURE

▲ For more details circle NED-763 A7 on enclosed inquiry slip ▲

When TURN-TOWLS go in— towel waste goes OUT!

THERE are *thousands* of Turn-Towl cabinets dispensing Mosinee Turn-Towls in washrooms in all types of places. And thousands of Turn-Towl users make the same comment — quality of service goes up when Turn-Towls go in because of *100% softwood fibre towels* — towel costs drop an average of *50% because of cabinet control.*

Write for name of nearest distributor

BAY WEST PAPER CO.
1130 West Mason Street • Green Bay, Wisconsin
Division of Mosinee Paper Mills Co.

▲ For more details circle NED-764 A7 on enclosed inquiry slip ▲

Hardness Readings in 2 seconds!

Webster PORTABLE **Hardness Testers** FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼". Simple, rugged design, easy maintenance.

Free FOLDER provides full information and shows sectional views.

MODEL B Direct hardness readings on all aluminum alloys.

MODEL B-75 Direct hardness readings on copper, brass, etc.

Other models available

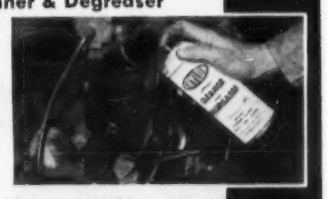
WEBSTER INSTRUMENT INC. DEPT. N, 11856 Mississippi Ave. Los Angeles 25, California.

▲ For more details circle NED-765 A7 on enclosed inquiry slip ▲

3 Giant Time and Money Savers

in new giant spray can—35% more product—no extra cost

KRYLON Spray Cleaner & Degreaser



. . . for cleaning engines, heavy machinery, materials-handling equipment, etc. Easy to use—just push the button and spray, allow to set for 5 minutes and then rinse the surface with water! That simple! That fast!

KRYLON—HOUGHTON TENAC Open Gear and Cable Lubricant

. . . forms a continuous film of lubrication under all loads and speeds. Provides exceptional adhesiveness and oiliness at higher temperatures . . . will not crack or flake at low temperatures . . . use where conditions do not permit gear and cable enclosure.

KRYLON RUST RELEASE

. . . penetrates and unlocks rusty bolts and nuts and frozen movable parts, etc. Just push the button and spray, and in seconds corroded or bound parts loosen easily without effort. Spray reaches areas otherwise inaccessible.

ORDER FROM YOUR JOBBER OR WRITE

KRYLON, INC., NORRISTOWN, PA.

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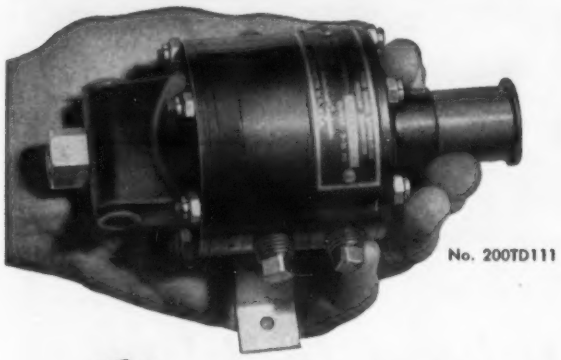


New, LOW COST
FLOW TRANSMITTER

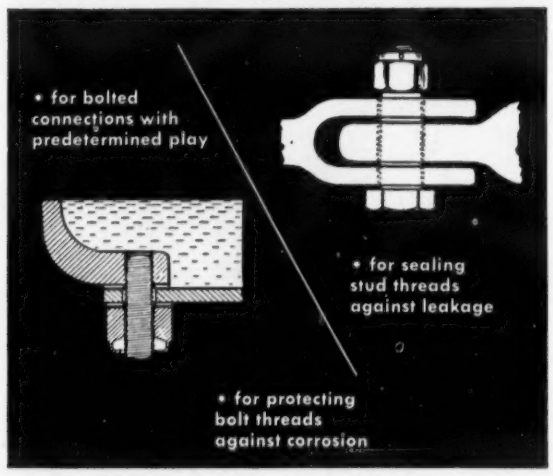
A Fixed Range Differential Pressure Transmitter, No. 200 TD 111 provides an extremely economical means of measuring flow, liquid level or pressure. It is therefore a practical cost accounting aid for many applications previously considered marginal.
Measuring only 6½" x 3" and weighing only 4½ lbs., it's simplified piping, force-balance construction and external adjustments make it easy to install and maintain. Calibration accuracy is better than 1%. Sensitivity exceeds 0.1%. Ranges 0 to 50, 100, 200, and 300 inches of water—easily and quickly changeable. Built for rough service and outdoor mounting, the No. 200TD111 is ready for *immediate delivery from stock.*

Call your Taylor Field Engineer, or **write for Bulletin 98274,** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Taylor Instruments MEAN ACCURACY FIRST

▲ For more details circle **NED-767 A7** on enclosed inquiry slip ▲

ELASTIC STOP® nuts:



. . . and wherever a nut must stay tight or maintain its setting under all conditions of vibration and impact. Available in the size and type for your particular fastening problem. Complete information on request—address Dept. N80-137

ESNA

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

▲ For more details circle **NED-768 A7** on enclosed inquiry slip ▲

New Processes & Materials

PANELBOARD MATERIAL
easily worked for panel revision

Field installation of additional instruments on control panels is facilitated by use of a laminated Formica-aluminum panelboard material. It consists of 1/16-in. sheets of Formica bonded to both sides of ¼-in. aluminum plate. Material is available for all control room panel applications. Ease of reworking this material minimizes cost of panel revisions. Formica facing offers attractive appearance and resistance to scratching and denting. Available from **Panellit, Inc.,** 7421 N. Hamlin Ave., Skokie, Ill.

▲ For more details circle **NED-770 A7** on enclosed inquiry slip ▲

LIQUID DETERGENT
goes into solution instantly

Concentrated liquid detergent Oakite Liqui-Det, which contains no soap, goes into solution instantly to develop an abundance of suds in hard or soft, hot or cold water. It quickly penetrates and loosens the most common soils and can be used without rinsing, build-up of film nor discoloration. Safe on every type of surface, it can be used in concentrations as low as ¼-oz to 1 gallon of water. Excellent field test results have been achieved on tile and asphalt floors, railroad diesel cab interiors and for removing tire rubber "burns" on concrete. Developed by **Oakite Products, Inc.,** 157 Rector St., New York 6, N. Y.

▲ For more details circle **NED-771 A7** on enclosed inquiry slip ▲

EVAPORATION BARRIER
plastic floats reduce vaporization

Evaporation losses in plating, cleaning, pickling, dye, rinse and other types of tanks and processes can be reduced up to 75 per cent through use of Mini-Vaps, expanded polyethylene floats. They contain thousands of tiny air cells for bouyancy, cannot be broken or punctured and provide interlocking and clustering at the surface of volatile solutions to minimize vaporization. Nominal dimensions are ¼-in. thick by 1½-in. maximum width. Made by **American Agile Corp.,** Dept. E, Box 168, Bedford, O.

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FLAMELESS BLOW TORCH

for quick heat up to 1000°

Use the Mamco Flameless Blow Torch on any application requiring a concentrated hot air blast. You can soften, form, mold and patch plastics, etc. easily with safety . . . The Mamco Flameless Blow Torch gives you quick heat up to 1000° *without flame.*
Powerful Mamco electric motor 110-120 Volt AC and DC. Turbo type fan provides steady, strong air blast. Eight foot heavy duty cord. Double jacketed heater housing. Adjustable air intake. Order direct.
Price $37.50
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Master APPLIANCE MFG. CO. RACINE, WISCONSIN

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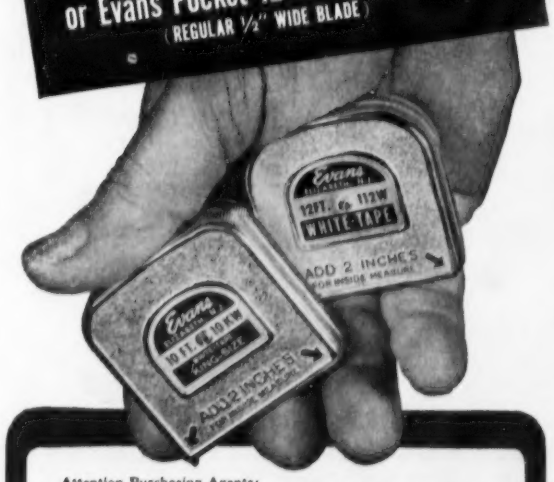
TO PURCHASING AGENTS ONLY!

FREE! Your Choice...
Evans KING SIZE 10-ft. White-Tape (EXTRA-WIDE BLADE)
or Evans Pocket 12-ft. White-Tape (REGULAR ½" WIDE BLADE)

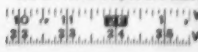


Attention Purchasing Agents:
We make this startling offer to introduce your company to Evans' superior King-Size and Pocket White-Tapes, the finest measuring tapes manufactured.
Simply fill in the coupon below and we'll send you, absolutely free and without any obligation, your choice of either our King-Size 10-ft. ($2.39 retail) or Pocket 12-ft. White-Tape ($1.89 retail)! (Offer limited to one tape per purchasing agent.)
We feel that once you try Evans Tapes, you'll never buy another brand. Here's why:

EVANS KING-SIZE
10-ft. ¾" Wide Steel Tape Stands Up Straight for Easy One-Man Measurements.

The 33% wider blade (full ¾") stays straight up—will not bend when making measurements. Chrome plated zinc die-cast case. Free belt clip for handy carrying and Free Tenite Utility Case. Self-adjusting sliding hook for accurate inside-outside measuring.
Also available in 6, 8, 12-ft. lengths.

All EVANS Tapes are marked so your men don't have to figure!



EVANS 12-ft. Pocket WHITE-TAPE

Measures a full 12 feet – eliminates adding two measurements as with shorter tapes. Regular ½" wide blade. Chrome plated zinc die-cast case. Self-adjusting sliding hook for 100% accurate inside or outside measurements. Free transparent Tenite Utility Case.
Also available in 6, 8, and 10-ft. lengths.

Evans RULE CO., Dept. 124, Elizabeth, N.J.
Please send me free sample of (check one)
☐ King-Size 10-ft. Steel Tape ☐ Pocket 12-ft. White-Tape
☐ Send catalog page on Evans Tapes with custom nameplates for gifts to our customers carrying our advertising message.
My two sources of supply for steel tapes are:
1)_____
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Name_____ Title_____
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For quick, efficient service call your Industrial Distributor. He is your most economical source of supply.

Series 8150 Adjustable Posture Chair in use above

TOLEDO
production seating

- Increases Production-Efficiency
- Improves Employee Morale
- Reduces Errors Caused by Fatigue

PRODUCTION SEATING is seating adapted to the "use requirements" of the individual at a particular operation.
The Toledo Metal Furniture Company has created the *only complete line* of comfortable, safe, rugged PRODUCTION SEATING. A wide range of features* from which to select the correct chair for your particular operation has been developed from Toledo's 60 years' experience.

*FEATURES . . . HEIGHTS (14" to 35"): Quick-adjustable—Adjustable—Fixed • FEET: 5 different kinds • SEATS: Swivel—Non-Swivel—Steel—Wood—Cushioned • BACKREST: Straight—Springback—Adjustable.

Series 146 Fixed Height Stool

Series 5306 Quick Adjustable Posture Chair

Other Series Available

FREE! This Coupon Brings Valuable Data

THE TOLEDO METAL FURNITURE COMPANY
1090 South Hastings Street
Toledo 7, Ohio

Send brochure on TOLEDO Production Seating to:

NAME.....

TITLE.....

Attach this coupon to company letterhead.

▲ For more details circle **NED-769 A7** on enclosed inquiry slip ▲

DESIGNED BY CRANE to keep your steam lines hot, dry, efficient

Cross-section, Crane No. 9810 Inverted Open Float Steam Trap. Note extreme simplicity and compactness of construction.

Crane Inverted Open Float Steam Traps drain condensate automatically and instantly—save fuel and maintain operating efficiency.

High discharge capacities in relation to size permit more compact installations. Available in working pressures from 1 to 300 pounds saturated steam, sizes ½ to 1 inch.

LITERATURE ON REQUEST—see your Crane Representative or write to address below.

CRANE VALVES & FITTINGS

PIPE • KITCHENS • PLUMBING • HEATING

Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers Serving All Areas

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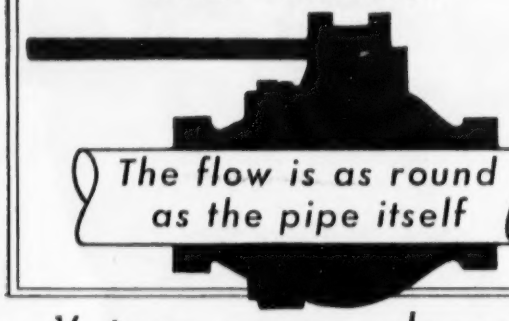
Specify—

ROCKWOOD FULL FLOW BALL VALVES



The flow is as round as the pipe itself

¼ turn opens, closes

Leakproof · Rugged Chrome-plated Bronze Ball

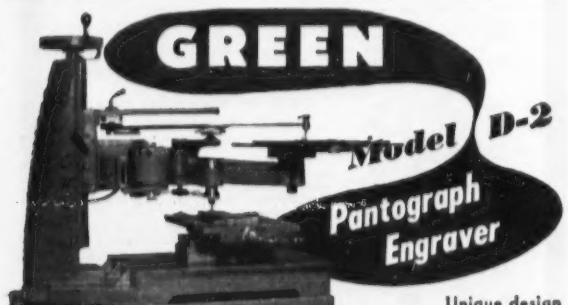
ROCKWOOD

ROCKWOOD SPRINKLER COMPANY

1348 HARLOW STREET, WORCESTER 5, MASSACHUSETTS

For more details circle NED-775 A7 on enclosed inquiry slip

GREEN



Model D-2 Pantograph Engraver

Unique design of the two dimensional Model D-2 features—Single micrometer adjustment controls vertical depth of cut, and adjusts height of copy table and pantograph.

Range of ratios from 2 to 1 to infinity!

Accessibility on three sides permitting panels up to 30" diameter to be engraved, milled or profiled. Vertical range over 10" allowing operations on complete chassis, cabinets or other bulky objects.

Ruggedness, stability and precise accuracy inherent in construction.

Mounted on the ruggedly constructed heavy duty steel Green Engraver Bench. All functional parts are conveniently within reach of the operator while seated. Accessibility of master type sets stored in lower cabinet trays, tools and accessories contribute to productive capacity.

A brochure with full details is yours upon request.

Literature also available on the smaller Model 106 three-dimensional engraver.

GREEN INSTRUMENT COMPANY

375 Putnam Ave., Cambridge, Mass.

For more details circle NED-776 A7 on enclosed inquiry slip

New Literature & Catalogs

Flexible Chain Couplings

Morse Chain Co.—Specifications, dimensions, ratings and applications for series DSC and SA silent chain couplings and series DRC roller chain couplings are found in 16-page catalog C45-56. Data on stamped steel plastic and split aluminum covers are also included.

For more details circle NED-777 A7 on enclosed inquiry slip

Leveling Jacks

Enterprise Machine Parts Corp.—Information on available models, sizes and capacities of machine leveling jacks is content of 4-page bulletin. Expanded Empco line is used for reducing machine tool vibration, and adjusting level of production machines, furnaces, assembly fixtures and large surface plates.

For more details circle NED-778 A7 on enclosed inquiry slip

Precision Ball Bearings

Barden Corp.—64-page illustrated "Precision Ball Bearings" catalog is guide to design and performance of these units offered to makers of instruments, aircraft accessories, machine tools and other precision mechanisms and components. Bearing guide lists type, construction, major characteristics, typical applications and reference to completely cataloged data on each.

For more details circle NED-779 A7 on enclosed inquiry slip

Slitting Knives & Scrap Choppers

Cowles Tool Co.—Slitting and trimming and special slitting knives, spacers, scrap chopper blades, metal lath tools and tube mill and roll forming tools are described briefly in illustrated 4-page folder 561.

For more details circle NED-780 A7 on enclosed inquiry slip

Engineered Hydraulic Equipment

Century Hydraulics, Inc.—Engineering information on hydraulic reservoirs and hydraulic pumping unit accessories is presented in 14-page catalog "Engineered Hydraulic Equipment." Information covers oil level sight gages, breather caps, filter breather assemblies and clarifier units.

For more details circle NED-781 A7 on enclosed inquiry slip

Packaging with Steel Strap

United States Steel Corp., Gerrard Steel Strapping Div.—36-page "Blue Book of Packaging No. 3" contains 130 photos of strapping applications. New heavy duty powered flat steel strapping unit is described, as are various other models.

For more details circle NED-782 A7 on enclosed inquiry slip

Fire Alarm System

Gamewell Co.—Flexalarm emergency fire alarm system, subject of 12-page bulletin F249, uses standard alarm components which can be combined to perform any automatic or manual fire alarm function. Technical data on the components and accessories are presented.

For more details circle NED-783 A7 on enclosed inquiry slip

HEAT-CONTROL PROBLEMS IN YOUR INDUSTRY, MR. DESIGNER?

BEST ANSWER USUALLY COMPACT, TOUGH, ACCURATE FENWAL THERMOSWITCH.®

WE HAVE PROVED THAT TO DESIGNERS IN ALMOST EVERY INDUSTRY, INCLUDING, PROBABLY, YOURS.

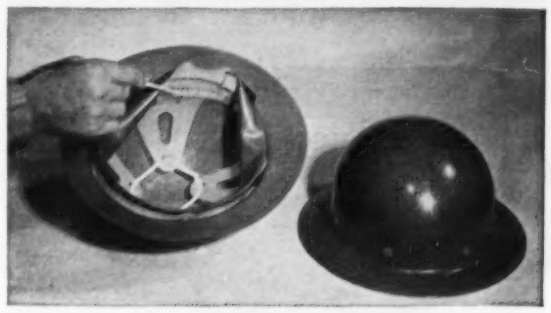
VERY ADAPTABLE — 24,000 VARIATIONS AVAILABLE ON BASIC THERMOSWITCH IDEA.

Designers — Write Fenwal Inc., 81 Pleasant St., Ashland, Mass., for THERMOSWITCH Folder.

Fenwal

Controls Temperature ...Precisely

For more details circle NED-784 A7 on enclosed inquiry slip



take a look!

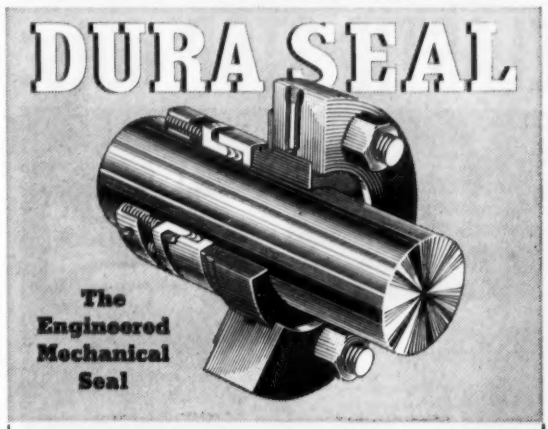
Instantly adjustable to any head-size from 6½ to 8 . . headband is marked for the various sizes, in divisions of ⅛, which insures the perfect fit and comfort of an old felt hat. . . The full-floating headgear makes practical its wear the clock-around, without your knowing it is there. . . Hygiene is one of the principal features of the design . . when reissued, there is nothing to be replaced but the sweatband . . Boyer-Campbell Safety Hats and Caps come in eight different permanently molded colors that are abrasion-proof. May be furnished in cap helmet combination for arc welding with goggles; face shield etc., to suit any individual or construction need . . . send for catalog and prices.

THE BOYER-CAMPBELL COMPANY

6542 St. Antoine Safety Division Detroit 2, Michigan

For more details circle NED-785 A7 on enclosed inquiry slip

DURA SEAL



The Engineered Mechanical Seal

DURA SEALS provide perfect sealing on rotating shafts on processing equipment for the widest range of fluids, temperatures and speeds . . . .

21st YEAR

DURAMETALLIC CORPORATION

KALAMAZOO MICHIGAN

For more details circle NED-786 A7 on enclosed inquiry slip

NEW LOW COST SCRAP CHOPPER

Powered by the press ram... independent of the die

3 SIZES. Cuts steel up to 3/32" thick.

3" WIDE $69 6" WIDE $95 12" WIDE $195

Guaranteed — money back if not 100% satisfied

New LOW prices on the JACO AUTOMATIC STOCK REEL

WRITE FOR FULL DETAILS TODAY!

Dealer Inquiries Invited

JACO DEVICES, INC.

95 HIGH STREET • HINGHAM, MASS.

For more details circle NED-787 A7 on enclosed inquiry slip

USE THIS SELF-MAILER FOR MORE INFORMATION

FOLD — SEAL — MAIL

SECOND FOLD TO THIS LINE

Circle the Numbers Below corresponding to items on which you want additional information. Your request will be sent promptly to the manufacturer. Please fill in the coupon completely. We'll pay the postage.

	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151	1201
2	52	102	152	202	252	302	352	402	452	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152	1202
3	53	103	153	203	253	303	353	403	453	503	553	603	653	703	753	803	853	903	953	1003	1053	1103	1153	1203
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12	62	112	162	212	262	312	362	412	462	512	562	612	662	712	762	812	862	912	962	1012	1062	1112	1162	1212
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15	65	115	165	215	265	315	365	415	465	515	565	615	665	715	765	815	865	915	965	1015	1065	1115	1165	1215
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19	69	119	169	219	269	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169	1219

FOLD BOTTOM EDGE TO THIS LINE

20	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220
21	71	121	171	221	271	321	371	421	471	521	571	621	671	721	771	821	871	921	971	1021	1071	1121	1171	1221
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49	99	149	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199	1249

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A PENTON PUBLICATION

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COMPANY _____

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CITY _____ ZONE _____ STATE _____

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_____

_____

Approximate Number of Employees in Plant: _____

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
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A-7

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ABSOLUTE PRESSURE

From 200 Microns Up

TYPE FA-160

...Ranges: 0—50 mm thru 800 mm Hg absolute in six ranges.
...Accuracy: 1 part in 300 over full scale.
...Sensitivity: 1 part in 500 in *all* ranges.
...Available with 2¾" or 6" dia. dial.

Write for Publication No. TP-28-A A-105-r

WALLACE & TIERNAN
INCORPORATED
25 MAIN ST., BELLEVILLE 9, N. J.
In Canada: Wallace & Tiernan, Ltd., Toronto

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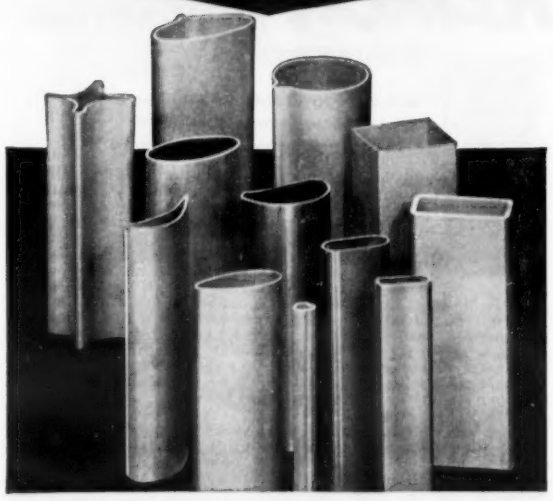
Cost-saving Short-cuts to finished product parts



"custom-made" shapes of *Carpenter* STAINLESS TUBING

When you want to provide the functional and decorative advantages of stainless steel in hollow, specially-shaped parts of any products you make, be sure to investigate the economies of using Carpenter Stainless Shaped Tubing. It can save you production time, money and material in translating designs into finished parts.

Rectangular, square, oval, half-round, diamond, triangular, fluted, drip-lip, and various other special cross-sectional shapes of Carpenter Stainless Tubing are obtainable for pressure, mechanical, structural and sanitary services. They can be supplied in over 20 stainless and special corrosion-resistant analyses with a wide variety of surface finishes. Sizes and gauges available depend upon shapes and analyses desired.

Find out how Carpenter Stainless Shaped Tubing can possibly benefit your product and production costs. Your nearby Carpenter Representative or Distributor will be glad to help you determine the tubing best suited for your parts requirements. Ask for Selecting and Buying Guide, Bulletin TD 120.

MEMBER

The Carpenter Steel Company
Alloy Tube Division, Union, N. J.

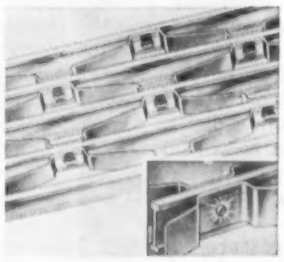
Export Dept.: The Carpenter Steel Co., Port Washington, N. Y.—"CARSTEELCO"

Carpenter
Stainless Tubing & Pipe

▲ For more details circle **NED-789 A7** on enclosed inquiry slip ▲

New Processes & Materials

WELDED GRATING
primary load bar is small I-beam



Primary load bar of Gold Nugget welded grating is a miniature I-beam to which are welded the secondary bars with a ⅜-in. weld nugget. All vertically aligned bars are load-carrying bars. Diamond shaped pattern is skidproof and holds concentrated wheel loads. Grating is made in 1¼ and 1½-in. thicknesses in standard panel widths of 23¾, 35½ and 47 5/16 in. Lengths range from 2 to 7 ft. Fastening to supports is by flat head J-bolt, special fasteners or by welding. Stair treads of same pattern are available. Made by **Globe Co.**, Dept. C, 4000 S. Princeton Ave., Chicago 9, Ill.

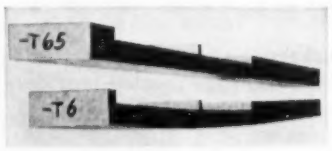
▲ For more details circle **NED-790 A7** on enclosed inquiry slip ▲

HIGH TEMPERATURE ADHESIVE
does not creep at 400° F

Thermocuring Pliobond H. T., specifically developed for high temperature applications, will cure in 350° F. Tests show that 40-gage samples of cold rolled steel bonded with the adhesive exhibit no creep tendency under constant loads in 400° F temperatures. Flexibility is retained throughout its serviceable temperature range. Adhesive is available in quart, gallon, 5-gallon and 50-gallon containers. Developed by **Goodyear Tire & Rubber Co.**, Chemical Div., 1144 E. Market St., Akron 16, O.

▲ For more details circle **NED-791 A7** on enclosed inquiry slip ▲

ALUMINUM HAND FORGINGS
tempered to reduce internal stresses

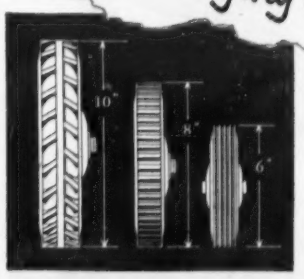


Aluminum alloy hand forgings can now be produced with low level of internal stresses as result of the T65 tempering process. Treatment is applied extensively to hand forgings and rolled rings in alloy X7079 and substantially reduces warpage from machining. A machined hand forging of this alloy shows the same low warpage found in stretched plate and extrusions. Process is based on precisely controlled cold reduction, following solution heat treatment. Alloy X7079-T65 hand forgings and rolled rings with X7079-T6 properties are offered in sizes up to 6 in. thick and 72 sq in. in cross section. Forgings are made by **Aluminum Co. of America**, Dept. NED, 1501 Alcoa Bldg., Pittsburgh 19, Pa.

▲ For more details circle **NED-792 A7** on enclosed inquiry slip ▲

Want to Step up Sales?

By Add more models by changing wheel sizes



It's Easy when you choose Gleason Wheels *Here's How —*

Create new models of your product quickly and economically without retooling, or other costly production changeovers. Select various sizes and constructions of Gleason Standard *Steel* disc, semi-pneumatic wheels. Over 200 wheel hubs, plus hundreds of tire choices give you more than 600 possibilities. Add *variety* to your line the economical way with Gleason *Steel* disc wheels.

Steel's the Deal When You Choose a Wheel!

Get the facts about the superiority of Gleason Steel Disc, Semi-pneumatic Wheels! Write, right NOW, to

GLEASON *Corporation*
244 N. 12th Street • Milwaukee 3, Wisconsin

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CALDWELL Hoisting Equipment

LIFTEX NYLON SLING

5700 lb. steel crankshaft on two 3" wide Liftex Nylon Slings at Beloit plant, Fairbanks, Morse & Co.

Strong! No Rivets! No Metal!

Lifts soft or highly finished materials without scratching. Chemically treated to resist grease, abrasion and many chemicals and solvents. Stock sizes to lift up to 13,500 pounds, special sizes made to order. All with safety factor of 5.

WRITE TODAY FOR BULLETIN R

THE CALDWELL COMPANY, INC.
1123 FOURTH AVE., ROCKFORD, ILL.

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VEEDER-ROOT

New! Key · Lock · Reset MAGNETIC COUNTER

Sturdy tumbler lock puts damper on tampering . . . and one turn of key resets all 6 figures to zeros. Designed for panel mounting where remote indication is required, counter is only 5.50" long, 2.125" wide, 2.755" high, with capacity of 1,000 counts per minute. Power consumption, 8 watts. Underwriter-approved. Available in 110 and 220 AC and DC, from stocks in Hartford, Chicago, and New York. *Order now.*

VEEDER-ROOT INC., Hartford 2, Conn.
Chicago 6, Ill. • New York 19, N. Y. • Greenville, S. C.
Los Angeles • San Francisco • Montreal 2, Canada
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"the Name that Counts"

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cut industrial cleaning costs!

Safe Industrial Cleaning with the M-M-A "Little Windy" Airvac (AIR-OPERATED VACUUM CLEANER)

COMPLETE UNIT WITH 5' ALUMINUM NOZZLE AND BAG
29.95 EACH

The "Little Windy" Airvac is safe! It is completely non-electrical. No danger from sparks — no moving parts.

Saves time and money! Cleans walls, shelves, bins, beams, lighting fixtures, electrical equipment, floor benches, etc.

Powerful suction developed by compressed air makes this unit unusually efficient for either wet or dry pick-up.

Special fittings, brushes, etc. make the Little Windy Airvac adaptable to most any industrial application. Interchanging bag with hose makes it adaptable for removal or transference of liquids.

M-M-A, Inc., Lancaster, Pa.

Write for further data and technical information

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WHEREVER SOMETHING
STICKS
You'll Find A Use For

IMS
SILICONE FLUID SPRAY
ON FILM SEALERS, CRIMPER JAWS, EMBOSSING ROLLS, PANS; STAMPING, FORMING DIES—MOLDS OF ALL KINDS
SIMPLY SPRAY ON THIS PURE SILICONE FLUID COATING
And your sticking problems are over!
The most economical way to apply costly Silicone Release Agents!
SAFE — NON-TOXIC
CLEAN — LONG LASTING
Handy Self Dispensing Can
Has No-Fumble, Speedy Spray Head

PRICES (Delivered)
Sample Can..... $2.00
Per Unbroken Dozen..... $18.00
Per Unbroken Gross.... $197.40
INJECTION MOLDERS SUPPLY CO.
3514 LEE RD. CLEVELAND 20, O.
For more details circle NED-798 A7 on enclosed inquiry slip

PROPELLAIR®
...built to solve your "heavy duty" ventilating problems

...mount in any position

Heavy duty Propellair Type "CD" fans are designed for versatility and rugged duty. They can be mounted in side walls, roof ventilators, hoods, ducts and machinery in any position you require. They are ideal for "tough" ventilating jobs like removing heat, moisture, smoke and dust laden air. You get greater efficiency and quieter operation, because the exclusive venturi entrance ring prevents wasteful recirculation. The rigid, cast aluminum, precision balanced air-foil propeller runs quieter and retains its clean aerodynamic characteristics at all operating pressures. Powered by dependable Robbins & Myers Motors of any design you need, they are covered by a single name-plate guarantee. Available in sizes from 12" to 60" for from 1020 to 85000 CFM air delivery. Let Propellair engineers survey your needs and recommend the correct ventilating equipment.
WRITE FOR BULLETIN NO. 690-N

R&M PROPELLAIR®
DIV. OF ROBBINS AND MYERS, INC.
SPRINGFIELD, OHIO
Certified Ratings PMA

MOVING AIR IS OUR BUSINESS
For more details circle NED-799 A7 on enclosed inquiry slip

New Literature & Catalogs

Pneumatic Instruments for Process Control

American Machine & Metals, Inc., U. S. Gauge Div.—Indicating pilots, transmitters and receiver gages are among pneumatic instruments for process control discussed in 16-page catalog 505. Shown for the first time is the 3½-in. scanning diaphragm receiving gage with rotatable dial which permits operator to rotate dial to common set point. Data are provided on measuring elements for pressure and temperature applications.

For more details circle NED-800 A7 on enclosed inquiry slip

Pressure-Sensitive Labels

Allen Hollander Co.—Fifteen case studies of how Able-Stik pressure-sensitive labels solved actual merchandising, manufacturing or other problems are provided in portfolio entitled "Here Are Your Clues to More Efficient Labeling." Labels require no moistening, adhere to practically any smooth dry surface and are removable, if desired.

For more details circle NED-801 A7 on enclosed inquiry slip

Installing Power Transformers

Moloney Electric Co.—80-page well-illustrated booklet 427-R-1 details the installation, operation, component parts, maintenance and inspection of power type transformers in all ratings. Instructions cover installation of sealed air and gas-oil-seal transformers, inert gas equipment, installation in two-section tanks and of transformers with conservators.

For more details circle NED-802 A7 on enclosed inquiry slip

Power Lubrication Systems

Lincoln Engineering Co.—Power operated centralized lubrication systems, including those available on automobiles, truck-trailers and industrial machinery, are described in illustrated catalog 811. Functions of manual, mechanical and electric automatic controls, plus various installations and diagrammatic illustrations are covered.

For more details circle NED-803 A7 on enclosed inquiry slip

Gaskets, Shims & Washers

Chicago-Wilcox Mfg. Co.—28-page catalog provides data on ring, cylinder head, double jacket, corrugated metal, plain solid, self-sealing and special gaskets, shims and washers. Highlight of booklet is a complete section listing of over 1500 stock dies available which can save gasket users die costs in meeting their requirements.

For more details circle NED-804 A7 on enclosed inquiry slip

Suspended Separation Magnets

Indiana Steel Products Co., Stearns Magnetic Products Div.—Five suspended separation magnets for removal of tramp iron in conveyor systems are described in bulletin 1031. Complete specifications and operating principles are presented for easy reference in selection and ordering.

For more details circle NED-805 A7 on enclosed inquiry slip

Lift Jack and Semi-Live Skids-

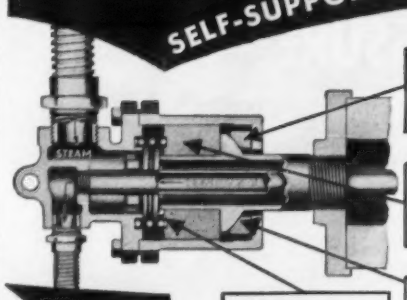
...Make an ideal Low Cost
HANDLING SYSTEM

WHEELS
PLASTIC
RUBBER
METAL

Ironbound — IRONBOUND
55 Hoffman Place • Hillside, N. J.

For more details circle NED-806 A7 on enclosed inquiry slip

JOHNSON Rotary Pressure JOINT
SELF-SUPPORTING TYPE



1. SEAL RING — of special carbon-graphite. Eliminates packing and oiling.
2. GUIDE — Also of carbon-graphite. Makes joint self-supporting.
3. NIPPLE — Rotates with roll, seals against ring.
4. SPRING — For initial seating only. In operation joint is pressure sealed.

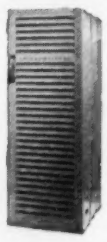
Only 4 Internal Parts

For introducing steam and liquids into rotating rolls and cylinders, there's nothing like the Johnson Joint above. It's packless, self-lubricating, self-adjusting, self-supporting. It has been adopted by dozens of machinery makers, and is finding new uses every day.

Type SB shown handles both steam and condensate through same head; also available for through flow service, and in sizes and styles for all operating conditions. Write for literature.

The Johnson Corporation
812 Wood St., Three Rivers, Mich.
For more details circle NED-807 A7 on enclosed inquiry slip

KLIXON SNAP-ACTING CONTROLS



are designed into International's Mobile Home Furnaces for dependable performance

In developing its automatic central furnace for mobile homes, the International Oil Burner Company, like other leading heating equipment manufacturers, chose KLIXON Controls on the basis of performance.

International's TAC 1000, which is compactly designed to fit into mobile home cabinet space and deliver 43,000 BTU/hr., uses KLIXON Controls in hi-limit, low-limit and fan control applications.

Here's what Jordan Heiman, Superintendent of Research for International, has to say about these KLIXON Controls:

"In designing domestic warm air heating equipment, we find our limit applications generally require controls which operate consistently at high temperatures with electrical loads varying from millivolt circuits to high voltage. KLIXON Controls have most often met our specifications."

Designers and manufacturers who seek dependable, trouble-free performance in temperature controls are turning more and more to KLIXON. A wide variety of open and hermetically sealed types of KLIXON Controls are available with fixed temperature settings engineered to meet your requirements. Write today for Catalog THSN.

Metals & Controls Corporation
SPENCER THERMOSTAT DIVISION
3301 FOREST STREET, ATTLEBORO, MASS.
For more details circle NED-808 A7 on enclosed inquiry slip

THE RUST PROTECTIVE COATING THAT SEALS RUST

Saves Labor Costs in Applying... Goes on Right Over Rusted Metals

You save money when you stop rust...save your buildings and equipment. You save still more money when you specify RUST-SELE protective coating. For, unlike ordinary rust resistant paints, RUST-SELE contains a processed and reinforced fish oil vehicle. That's why it goes on right over rust and even damp surfaces. Expensive sandblasting and other removal treatments are not necessary.

RUST-SELE penetrates rust...right down to the sound metal itself...provides a firm bond...keeps out water, air and fumes. Tested and certified by Cosma Testing Laboratories for adhesion and resistance to salt spray, humidity, weathering, etc. (Complete report on request).

For further information and the RUST-SELE Trial Offer, write on your company letterhead...TODAY!

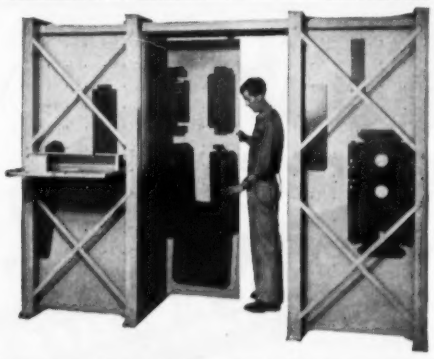
Rust-Sele Co. 9806 MEECH AVENUE CLEVELAND 5, OHIO
For more details circle NED-809 A7 on enclosed inquiry slip

POSITIVE CONTROL
is easy with Schrader® check valves

Wherever you want air flow in one direction only, Schrader check valves are your best solution. Spring assures positive sealing at low as well as high pressures. Very compact, it nevertheless has a large flow capacity. Long trouble-free life with minimum maintenance. Write Schrader for free data on these valves.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

For more details circle NED-810 A7 on enclosed inquiry slip



Nearly 3,000 sq. ft. of steel filing space in 25 sq. ft. of floor space with

DELUXE TEMPLA-FILE
(patent pending)

New practical system for vertical filing and storing of templates, patterns, gaskets, and mock-ups.

- Eliminates wasted man-hours locating patterns
- Saves floor space
- Foldaway reference desk holds handy card index file.
- 24 free-sliding panels—each support 600 lbs.
- One Templa-File user states he saved 75% of the time previously used in locating templates.

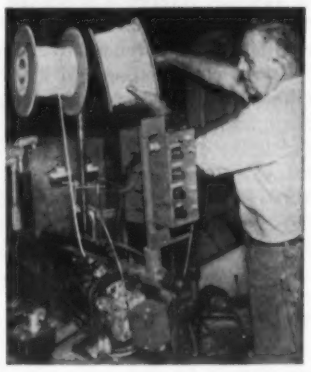
Call your Deluxe dealer or write for Bulletin #100

DELUXE — DELUXE METAL FURNITURE CO., Warren, Pa.
A Division of the Royal Metal Mfg. Co.

For more details circle NED-811 A7 on enclosed inquiry slip

New Processes & Materials

HOT MELT ADHESIVE
provided in unusual coil form



Coil form of Thermogrip hot melt adhesive for packaging uses eliminates the conventional glue pot and minimizes clean-up, premelting and waste. Adhesive is applied with special feeding and melting device that can be attached to various types of packaging machinery and bonds polyethylene films, foils, glassine and many types of boards and papers. Developed by **United Shoe Machinery Corp.**, Industrial Sales Div., Dept. N, 140 Federal St., Boston 7, Mass.

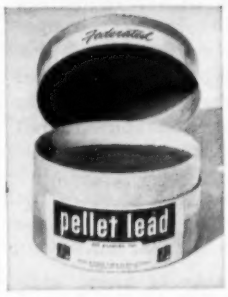
For more details circle NED-813 A7 on enclosed inquiry slip

SNOW PLOW WAX
speeds up snow removal operations

Fast, easy snow removal is assured if plowing equipment is coated with Penn Drake snow plow wax. The compound can be brushed or sprayed on moldboard and wings and is also recommended for snow loaders, rotary plows, dump boxes and the like. The hard, slick coating allows snow to slide off easily wet or dry, and prevents piling and overloading. One gallon covers 300 sq ft, and one application will last through a day's operations. Made by **Pennsylvania Refining Co.**, 2660 Lisbon Rd., Cleveland 4, O.

For more details circle NED-814 A7 on enclosed inquiry slip

PELLETIZED LEAD
added to steel for machinability



Addition of fine, dry, uniformly sized pellets of lead to steel imparts improved machinability to the metal by acting as a lubricant and minimizing friction between tool face and chip. There is no impairment of the basic steel properties. Lead content of steels is present as finely dispersed particles, introduced into the steel when the molten metal is issuing from the ladle. Lead can be blown through a gun or gravity fed into steel produced by any of the standard processes. Pellets are packaged in 50-lb Fiberpak drums. Made by **American Smelting & Refining Co.**, Federated Metals Div., Dept. NED, 120 Broadway, New York 5, N. Y.

For more details circle NED-815 A7 on enclosed inquiry slip

Ellisco SEAMLESS CANS

For . . . STORING · SHIPPING HANDLING SAMPLES SPECIAL PARTS PACKAGING AND MANY OTHER INDUSTRIAL USES

Industries everywhere use ELLISCO Seamless cans for many different applications. They will meet your specific needs, too, because they are *light in weight, unbreakable, available in a wide variety of types and sizes.*

Capacities: from 1/8 oz. to 16 oz.

Types and Sizes: flat, from 1 5/16" x 1/4" to 5 1/2" x 1 1/4" deep, from 1 5/16" x 5/8" to 4" x 2 3/8"

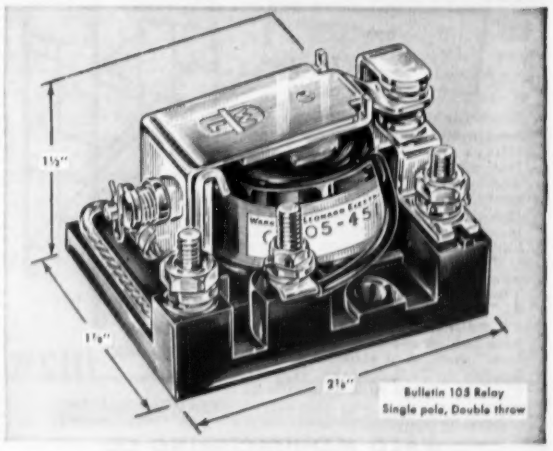
Most standard sizes are carried in stock. Special cans, and standard sizes trimmed to lower heights, made to order. Some styles have LabelStik covers for identifying contents.

Write, wire or call for more information and Bulletin 116.

GEORGE D. ELLIS & SONS, INC.
4036 N. American St., Dept. A, Phila. 40, Pa.

For more details circle NED-816 A7 on enclosed inquiry slip

Compact power relay... high contact ratings



More relay for your money—that's the big thing you get when you specify Ward Leonard's Bulletin 105 for light power switching jobs.

No delicate, misapplied telephone- or instrument-type relay, the 105. From rigid phenolic base to ample silver-to-silver, self-cleaning contacts, the 105 is built to deal with *power* . . . just like the larger Ward Leonard relays and contactors. And yet it's extremely compact and low in cost.

You'll find the Bulletin 105 relay—in SPST, SPDT, DPST, and DPDT types—ideal for controlling power to electric heaters, signals, pumps, radio and TV transmitters and public address systems.

Check your catalog file today for Bulletin 105. If it's missing write to: Ward Leonard Electric Co., 51 South Street, Mount Vernon, N. Y. (In Canada: Ward Leonard of Canada Ltd., Toronto.) 7.5

ENGINEERING DATA
SINGLE POLE BULLETIN 105 RELAY

Contact Ratings

Volts	D.C. Amps.* N.O.	D.C. Amps.* N.C.	A.C. Amps.* N.O.	A.C. Amps.* N.C.
0-24	20	15	20	15
25-125	½	½	20	15
126-250	—	—	15	10

*Ratings are non-inductive.

COIL VOLTS: 6, 8, 10, 12, 24, 32, 48, 115, 230
AVG. COIL WATTS: 2 D.C., 3.75 A.C.
PICK-UP: 85% or less of rated voltage
WEIGHT: 5 ounces
TERMINALS: Stud type

LIVE BETTER...*Electrically*

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls Since 1892
RESISTORS · RHEOSTATS · RELAYS · CONTROLS · DIMMERS

For more details circle NED-817 A7 on enclosed inquiry slip

Here's how to decrease harmful machine VIBRATION

Machine downtime, quality control problems, shortened machine life and loss of precision—*all* can be caused by excessive vibration. To avoid these costly hazards, machines should be *set* level . . . *kept* level . . . and *re*-leveled periodically. *How?* Equip your machines with EMPCO Leveling Jacks! EMPCO Jacks facilitate machine installation and set-ups . . . assure smooth, positive adjustment . . . provide dependable support for machine tools, large surface plates, automation lines, tool room and production equipment of all types.

VI-SORB MOUNTING PADS GIVE EXTRA PROTECTION

VI-SORB Mounting Pads provide extra protection—reduce the transmission of internal machine noises throughout the building structure and check transmitted vibrations from one machine to another. They retard machine creepage and frequently eliminate the need for anchor bolts. VI-SORB Pads do not breakdown under repeated impact loads or deteriorate with age. They resist oils, greases, acids. Available in thicknesses to meet specific conditions and cut to fit EMPCO Jacks. Set your machines level, keep them level, *freer of vibration*, with EMPCO Jacks and VI-SORB Mounting Pads!

EMPCO LEVELING JACKS

Empco Leveling Jacks
Available in Six Styles—25 Models
Capacity-Rated to 20 Tons!

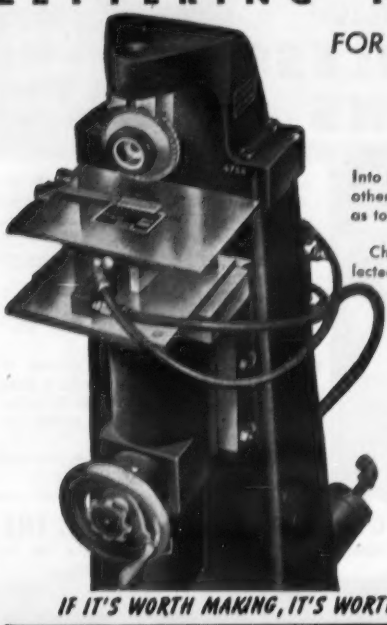
Write today for descriptive Bulletin No. 100

THE ENTERPRISE MACHINE PARTS CORP., 2727 Jerome Avenue, Detroit 12, Mich.

For more details circle NED-812 A7 on enclosed inquiry slip

PNEUMATIC POWER LETTERING PRESS

FOR STAMPING SELECTIVE LETTERING



Into DIE components and other metal parts such as tools, gauges and jigs.

Characters are selected by turning dial and are stamped into part when foot pedal is depressed. Spacing of characters is automatic.

Requires 20 to 40 pounds line pressure. Write today for further information on this or any other member of the famous GTS line.

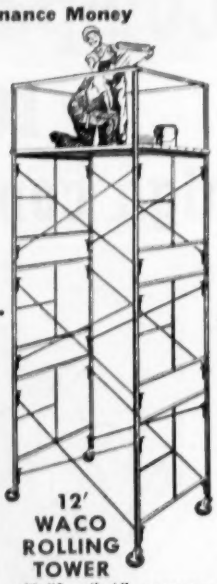
IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

For more details circle NED-818 A7 on enclosed inquiry slip

NEW MANUAL tells how WACO Light Duty Rolling Towers Save YOU Maintenance Money

Copy Sent Upon Request



Waco Light Duty Rolling Towers are unparalleled for their versatility. Use Waco Light Duty Rolling Towers and you'll save money by reducing maintenance costs, increasing productivity (because less time is involved in moving, erecting and dismantling) and reducing workman fatigue.

This manual explains further how Waco Light Duty Rolling Towers bring you all these benefits at low cost. For instance, a 12' rolling tower, with free-running rubber casters, and "Speedlock" method of attaching cross-braces to end frames, is only $112.00. Guard rails available at extra cost.

Send for your free manual today.

12' WACO ROLLING TOWER with "Speedlock" only $112.00

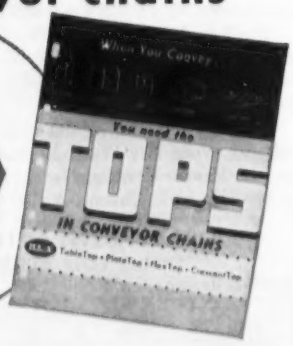
Price includes 4" rubber casters

WACO MANUFACTURING CO.
3565 Wooddale Avenue • Minneapolis 16, Minnesota

For more details circle NED-819 A7 on enclosed inquiry slip

For TOP performance in conveyor chains

send for this FREE booklet



If you convey bottles, cans, jars, boxes, cartons, vials, containers, small parts and packages, this booklet will give you important data on the "TOPS" in conveyor chains...Rex® TableTop® and PlateTop. These rugged, efficient chains offer important time-saving, cost-cutting advantages for your operations. Send for your free copy today. Write CHAIN Belt Company, 4686 W. Greenfield Ave., Milwaukee 1, Wis.

CHAIN BELT COMPANY
Milwaukee 1, Wisconsin

For more details circle NED-820 A7 on enclosed inquiry slip

New Literature & Catalogs

Facts on Puerto Rico

"Puerto Rico Facts for the Manufacturer" is title of 72-page reference brochure giving 1956-57 data on manufacturing possibilities in Puerto Rico with several specific references to the metalworking industry. Sections cover labor and labor training, markets and transportation, factory buildings and industrial, business and public services. Background information on living conditions, law and social life are included in this comprehensive, well illustrated brochure. Write Publication Office, Commonwealth of Puerto Rico, Economic Development Administration, 579 Fifth Ave., New York 17, N. Y.

For more details circle NED-821 A7 on enclosed inquiry slip

Tape & How to Use It

Mystic Adhesive Products, Inc.—A thousand and one ways to use pressure-sensitive tapes are disclosed in color-illustrated handbook "Mystik Manual of Pressure-sensitive Products." Four-way "tape finder" enables tape users to select proper type by government specification, by the manufacturer's product number, by tape type and by specific application in 134 industrial classifications. Described is a complete line of pressure-sensitive tape which includes general-purpose, waterproof in 13 colors, packaging, colored printable, electrical and specials as well as industrial adhesives.

For more details circle NED-822 A7 on enclosed inquiry slip

Forged Steel Unions

H. K. Porter Co., W-S Fittings Div.—Engineering data on W-S forged steel unions for high pressure service are provided in 8-page bulletin U-1-56. Unions for 3000 lb service; two and four-bolt flange unions in 2000 and 3000-lb classes; and 3000-lb O-ring flange union are specified as well as orifice, clamp ring, forged stainless steel and lug nut unions.

For more details circle NED-823 A7 on enclosed inquiry slip

Static Control Elements

General Electric Co.—Bulletin GEA-6578 defines static control, lists advantages and describes components of G-E's general-purpose static control system. The 8-page piece explains how static control operates without moving parts and covers the logic function concept, logic functions and conventional control, basic principles, circuit characteristics, monitor lights and amplifiers.

For more details circle NED-824 A7 on enclosed inquiry slip

Metal Laminates

Bridgeport Brass Co.—Wide range of metal laminates with a true metallurgical bond is described as to types, metal, applications, properties and sizes in 8-page form 10NE6. Laminates are offered in duplex and triplex layers and combine iron, mild steel, chromium stainless, Invar, Monel, Inconel, chromium-nickel stainless, copper, brass, Muntz, aluminum brass, admiralty, cupro-nickel and titanium metals.

For more details circle NED-825 A7 on enclosed inquiry slip

Casting Design Manual

Meehanite Metal Corp.—"Casting Design as Influenced by Foundry Practice" is title of 64 page manual No. 44 which treats the form of design, the method of making the pattern, and molding procedure involved in the production of sound engineered castings. The characteristics and behavior of the metal in the mold are covered. Sections are devoted to general design rules, casting strain, pattern making and molding and coremaking.

For more details circle NED-826 A7 on enclosed inquiry slip

Laboratory Equipment

Schaar & Co.—52-page supplement 956 to catalog 50 on selected laboratory equipment illustrates and describes many items added to company's stock. Among items listed are balances, cabinets, centrifuges, evaporators, furnaces, heaters, intercom systems, ice machines, mills, pH meters, pipette devices, spectrometers, timers, transformers and plastic tubing. A 30-page tabulated price list is included.

For more details circle NED-827 A7 on enclosed inquiry slip

Injection Molded Plastic Parts

Gries Reproducer Corp.—Injection molding of tiny thermoplastic parts is described in 4-page folder. Parts range up to maximum length of 1¼ in. and weigh up to 0.03-oz. Many parts that can be molded are illustrated. Techniques discussed are completely automatic and include an insert molding process.

For more details circle NED-828 A7 on enclosed inquiry slip

Another Winning Combination...

This J-E Solenoid Valve unfailingly controls water flow to pulverator... hold water costs to a minimum... permits maximum operating efficiency.

J-E SOLENOID VALVES and WASTE-KING PULVERATORS

Engineers the country over are finding thousands of uses for this versatile time and money saving solenoid valve. Dependably controls flow of water, air, light oils, Freon 12 and 22, brines, industrial gas, 5 lb. steam, ammonia, etc., 1 to 250 p.s.i.—0 to 225°F. Installed in any position.

Let us demonstrate how J-E Solenoid Valves can solve *your* flow control problems. For FREE catalog and complete details,

Phone, wire or write, Controls Division -51

JACKES-EVANS MANUFACTURING CO.
4427 Geraldine Ave. • St. Louis 15, Mo.

For more details circle NED-829 A7 on enclosed inquiry slip

RUSH IS NO PROBLEM

ORDER SPRAY NOZZLES FROM SPRAYING SYSTEMS

• An important part of our service to customers is our "immediate" delivery department. Whatever brand of nozzle you may be using, you can replace with Spraying Systems . . . and obtain equal or better spray characteristics and improve your operation. We maintain a complete stock of all standard types and capacities . . . average inventory over 12,000 nozzle TYPES ...for shipment of rush orders on same day received.

WRITE FOR CATALOG 24 . . . forty-eight pages of complete data on thousands of nozzle types and capacities.

SPRAYING SYSTEMS CO.
3211 RANDOLPH STREET • BELLWOOD, ILLINOIS

ADVANCED SPRAY NOZZLE DESIGN FOR NEW DIMENSIONS IN CONTROL AND PERFORMANCE

For more details circle NED-830 A7 on enclosed inquiry slip

EVER DROP A 20 POUND SLEDGE ON YOUR TOE?

If so, you have a slight idea of the force exerted by one blow of a small Cleveland Bin Vibrator. Just imagine this happening 10,000 times per minute. That's what can be expected from the smallest of our air vibrators, the 1" type F and if you need real brute force, there are seven larger sizes.

You can see why stuck bins get unstuck in a hurry. The beauty of it is that when properly mounted these vibrators deliver the punch of a stevedore with absolutely no damage to the bin.

Write for further details

Air or Electric • Portable or Permanent Noiseless or Standard

THE CLEVELAND VIBRATOR CO.
2744 Clinton Avenue Cleveland 13, Ohio

For more details circle NED-831 A7 on enclosed inquiry slip

INTRODUCING . . . The New

RENCO-AIRE Tapping & Drilling Machine

Check these outstanding features

Floor Model Illustrated

- ★ Changes from tap to drill position by the flick of a switch
- ★ Taps single or multiple spindle operations—right or left hand
- ★ Spindle rotation automatically synchronized to properly retract taps
- ★ Low speed spindle for heavy duty tapping or drilling
- ★ Air-operated feed, complete automatic or semi-automatic cycling
- ★ Cuts setup costs—Reduces number of fixtures
- ★ Increases production

LOW PRICE **ONLY $893.00*** f.o.b. Toledo

*Price does not include multiple spindle attachment.

Dealer & representative inquiries invited for our complete line of Renco-Aire Automation Accessories for machine tools.

RENCO-TOLEDO, INC.

3358 ALEXIS ROAD TOLEDO 13, OHIO • LYCEUM 3811

▲ For more details circle NED-832 A7 on enclosed inquiry slip ▲

yet save $1.10 per sq. ft. over Tile Flooring!

At one large dairy, where floor corrosion was a constant problem, tile floors had to be regrouted once a year with an acid-resisting grout. Cost was $1.10 per sq. ft. Now the dairy is resurfacing these floors with long-lasting **Chemi-Top floor surfacing compound**—eliminating the cost of yearly regrouting.

Chemi-Top floor surfacing compound trowels on, gives a dense, non-porous, rock-hard floor that stands corrosive action and heavy traffic.

Chemi-Top floors are impervious to all but the most violent chemicals—won't react to salts, oils, alkali, grease or most acids. Dense surface resists bacteria or chemical attack—is easy to keep sanitary. Spilled industrial chemicals, brine, ink, greases or dyes can be easily wiped up. **Chemi-Top** costs only about $1.00 per sq. ft. for material—can be applied by plant labor with substantial saving in cost of installation.

Send for Chemi-Top folder and technical data, with information on resistance to 38 corrosive chemical reagents. Send us your floor problem.

Write Dept. D-1.

MADE BY GARLAND Quality

See us at Plant Maintenance Show Booth No. 1247.

THE GARLAND COMPANY

CLEVELAND 5, OHIO

▲ For more details circle NED-833 A7 on enclosed inquiry slip ▲

New Processes & Materials

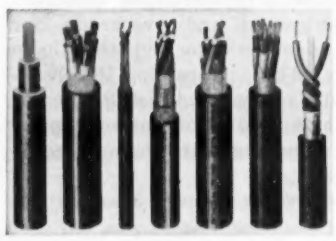
FIRE RETARDANT PAPER can be made in any number of plys

Fire retardant X-Crepe, a stretchable cross-creped industrial paper material, can be produced in many colors and in any number of plys for various thick-

nesses. Basically brown, it stretches 15 to 60 per cent longitudinally and 15 to 45 per cent laterally. Material's softness is retained through such manufacturing processes as die cutting, sewing, slitting or laminating to itself or to form a base for joining with plastic films. It can also be glued, cemented or saturated and is formable under heat and pressure. Surface treatments include embossing, indenting and printing. Rolls and sheets are available from **Cincinnati Industries, Inc.**, 382 Carthage Ave., Cincinnati 15, O.

▲ For more details circle NED-834 A7 on enclosed inquiry slip ▲

ELECTRIC WIRES & CABLES high and low voltage products made in various size conductors



Among series of recently introduced Bronco electrical wires and cables are two type USE style RR nonmetallic sheathed 600-v cables for burial in the earth and for use in raceways, ducts or as open wiring. Both are offered with a single solid conductor in 14 to 8 AWG sizes, or with single standard conductor in sizes 14 to 4/0. Bronco 66 type SO shielded cords are made with two, three or four conductors in sizes 18 to 10.

Shielded control cables are offered with five to twelve color-coded conductors in sizes 18 to 14. Bronco 66 Certified type SO "P & R" cord for severe operating conditions is made in sizes 18 to 10 with two, three or four conductors, also in two and three-conductor round in sizes 8, 6 and 4, and as two-conductor flat twin parallel cable, in sizes 8 to 1.

Control cables for 600-v stationary installation are stocked in AWG sizes 14, 12 and 10 with from 2 to 24 conductors. Also available is telephone distributing wire with pairs of twisted solid copper conductors and miners' lamp cord with two, three or four conductors in size 18 and 16. Made by **Western Insulated Wire Co.**, 2421 E. 30th St., Los Angeles 58, Calif.

▲ For more details circle NED-835 A7 on enclosed inquiry slip ▲

the ONLY **PORTABLE NIBBLER** *that* **CUTS** 10 Gauge Steel *Without Distortion!*

A big statement . . . and only Fenway can make it! Our portable Nibblers have solved unusual problems for hundreds of users. Complete line includes the 14 gauge Nibbler and a light-duty 18 gauge Nibbler, and a special 90° head for each.

RCA—DU PONT—GENERAL MOTORS—and many others, use Fenway Portable Nibblers!

ALSO AVAILABLE: CORRUGATED, JIGSAW ASSEMBLY & AIR TOOLS

WIRE • PHONE • WRITE for complete information

Model HN for 10 gauge Stainless Steel and 8 gauge Mild Steel. 6" radius.

Model MN for 14 gauge Stainless Steel and 13 gauge Mild Steel. 1" radius.

Distributed by EASCO PRODUCTS

PAT. #2278174 #2727811 #2535631

FENWAY MACHINE COMPANY INC.

Edgemont & Clementine Sts. Philadelphia 34, Penna.

▲ For more details circle NED-836 A7 on enclosed inquiry slip ▲

Type 1604-B Comparison Bridge $450.

Rapid, Accurate Testing of Audio Components in the Lab or on the Production Line

This Comparison Bridge is a versatile instrument for extremely quick measuring of resistances, inductances and capacitances by comparison with an external standard. It is completely self-contained and consists of a bridge circuit, an oscillator operating at 400 c, 1000 c, or 5 kc, and a sensitive cathode-ray tube as a visual null indicator.

With this bridge, rapid production testing of ¼% or 1% components is simple. It will measure impedances from pure resistive to pure reactive at any arbitrary phase angle from 0 to ±90°. Accuracy is ±0.1%.

Write for Complete Data

GENERAL RADIO Company

275 Massachusetts Avenue, Cambridge 39, Massachusetts, U.S.A.

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 920 S. Michigan Ave. CHICAGO 5

1150 York Road, Abington, Pa. PHILADELPHIA

8055 13th St., Silver Spring, Md. WASHINGTON, D. C. 1000 N. Seward St. LOS ANGELES 38

▲ For more details circle NED-837 A7 on enclosed inquiry slip ▲

END LADDER FATIGUE WITH RES-TEP

EVEN A BIG MAN feels safe and comfortable on this RES-TEP

SIMPLE TO CHANGE from one rung to another on any ladder

FULL FOOT COMFORT on any rung regardless of tilt of ladder

1. All Aluminum indestructible permanent mold construction.
2. Approximately 4 pounds in weight.
3. No adjustments necessary.
4. Majority of weight applied to ladder uprights—NOT on rungs.
5. Entire foot surface has deep diamond tread to prevent slippage.
6. Changeable from rung to rung in a few seconds.
7. Can be used on any round rung standard ladder.
8. Non-trip—Does not impair ascent or descent on ladder.
9. Usable on double extension ladders without interference.
10. Tensile strength of aluminum casting—25,000 pounds per square inch.

$9.50 F.O.B. Buffalo, N. Y.

AMERICAN ALLSAFE COMPANY INC.

8505 NIAGARA STREET • BUFFALO 12 NEW YORK

Phone Garfield 8100

▲ For more details circle NED-838 A7 on enclosed inquiry slip ▲

Remember! JOHN CRANE can supply the exact seal you require

Get quick information on "John Crane's" complete line of high production mechanical seals for every conceivable service. Send now for illustrated technical catalog. It's yours upon request.

TYPE 8-A Pressed-in packaged unit recommended for small shafts on hot or cold water, oil, gasoline or soapy liquids . . . pressures to 75 psi . . . temperatures from —65°F. to +220°F. Available in stainless steel or bronze.

TYPE 11-A Pressed-in packaged unit with spring inside synthetic rubber bellows to protect against corrosion. For hot or cold water, oil, gasoline or soapy liquids . . . pressures to 35 psi . . . temperatures from —65°F. to +212°F.

TYPE 9-A Packaged unit with wedge sealing ring made of DuPont Teflon. Will handle practically all known industrial chemicals and corrosives . . . pressures to 150 psi . . . temperatures from —120°F. to +500°F. Supplied in metallurgical specification best suited to the service.

Crane Packing Company, 6411 Oakton Street, Morton Grove, Ill., (Chicago Suburb).

In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

JOHN CRANE CRANE PACKING COMPANY

▲ For more details circle NED-839 A7 on enclosed inquiry slip ▲

CUT PRODUCTION COSTS!
MARK
NAME PLATES
5 TIMES
FASTER

MODEL EMT-1
ELECTRIC TAG TYPEWRITER
A touch of the finger delivers up to 2 tons pressure for deep, legible impressions in metal or plastic tags.

—WITH—
Automark
ELECTRIC TAG MARKING MACHINES

MODEL SRST-2
HI-SPEED
TAG MARKING MACHINE
Automatically marks BOTH constant and serial numbers at any desired speed up to 8,000 tags per hour!
MANUFACTURERS' AGENTS
Some Territories Still Available
Send Now for Bulletin

DEFIANCE MACHINE & TOOL COMPANY
1920 S. VANDEVENTER Dep't. QD ST. LOUIS 10, MO.

For more details circle NED-841 A7 on enclosed inquiry slip

this man is SAVING his company money...

SPEEDING PRODUCTION

He's stripping oily grime from machine tools with Hypressure Jenny *before repairs or repainting*. He's *saving his company* money, because he is doing the job in one-sixth of the time taken by hand methods. Also it is a known fact that when mechanics work on clean equipment, unhampered by grease and grime, production steps up . . . job time is shortened . . . costs are reduced.

But that's only half of it!

Besides cleaning all types of production machinery, tools and equipment, Jenny saves up to 90% of the time and labor costs of cleaning floors, walls, windows, and lavatories . . . reduces fire hazard; increases plant safety; and speeds production through better working conditions.

If you would like to know more about HYPRESSURE JENNY STEAM CLEANER and the many ways it can save your company money . . .

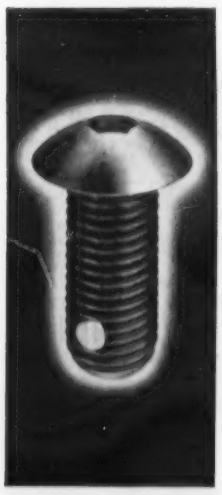
HYPRESSURE
Jenny
STEAM CLEANER

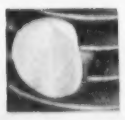
WRITE TODAY FOR FULL INFORMATION—NO OBLIGATION

HYPRESSURE JENNY DIVISION
HOMESTEAD VALVE MANUFACTURING CO.
P.O. Box 84 "Serving Since 1892" Coraopolis, Pa.

For more details circle NED-842 A7 on enclosed inquiry slip

NEW—self-locking UNBRAKO
button head cap screws





The Nylok* self-locking feature locks these screws securely in place. They won't work loose. Can be used repeatedly. Tough, resilient nylon locking pellets permanently installed. Successfully withstand temperatures ranging from —70 to 250°F. Low, streamlined heads with accurate hex sockets for positive nonslip drive and freedom from marred or mutilated heads. Heat treated alloy steel, continuous grain flow lines, fully formed Class 3A threads for maximum strength and exact fit. Pellets act as liquid seals. Standard sizes #6 to ⅝ in. Write for Bulletin 2193. Unbrako Socket Screw Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

*TM Reg. U.S. Pat. Off., The Nylok Corporation

UNBRAKO SOCKET SCREW DIVISION
STANDARD PRESSED STEEL CO.
sps
JENKINTOWN PENNSYLVANIA
Unbrako Products are sold through Industrial Distributors

For more details circle NED-843 A7 on enclosed inquiry slip

New Literature & Catalogs

Washers

Wrought Washer Mfg. Co.—All washer sizes carried in stock are listed in catalog No. 40 which covers U. S. Standard, SAE, light steel, rivet, AN, bevel, square, brass, narrow rim, countersunk finishing, Mil-Carb carburized and spring tension washers and machinery bushings. Index covers 75 categories.

For more details circle NED-844 A7 on enclosed inquiry slip

Edge Control for Strip

Askania Regulator Co.—Twelve photos and diagrams in 8-page bulletin 33.1 supplement text describing an edge position control. It holds the lateral position of strip material traveling up to and over 5000 fpm. Covered are models for light and heavy duty at slow, medium or high speeds.

For more details circle NED-845 A7 on enclosed inquiry slip

Integrated Data Processing

Ditto, Inc.—How businesses of any size can select the correct integrated data processing system for their specific needs is related in illustrated 24-page booklet. It discusses one-writing systems, punched cards, magnetic and punched tapes, telegraphic transmission and electronic computers. Many firms can make use of a one-writing direct process or offset duplicating system.

For more details circle NED-846 A7 on enclosed inquiry slip

Prefabricated Piping

E. B. Kaiser Co.—EBKO prefabricated insulated piping systems (underground and overhead) for steam, condensate, hot or chilled water and other fluids are described in illustrated 28-page catalog 100. Technical data on design, applications and installations of systems are included, along with flow tables, capacities, piping system data and suggested piping specifications.

For more details circle NED-847 A7 on enclosed inquiry slip

Compound Melters

Sta-Warm Electric Co.—Among compound melters described in 6-page folder 043W are dip tanks, bench pans, wax pots, cylindrical melters of up to 2000 gal capacity, tank agitators, multiple unit assemblies, three-heat pots and dispensing pots and tanks. Melters are for tar, waxes, resins, potting compounds, synthetic adhesives, paints and lacquers, thermoplastics, asphalt, pitch and oils.

For more details circle NED-848 A7 on enclosed inquiry slip

Labor-Management Relations

Wheeler Associates, Inc. — "Humanics" is fifth booklet in Cost Reduction for Industrial Management series. It deals with human or personal issues and problems in labor-management relations and covers team work, planning, employee effort and creative ability. Employee ideas and their treatment are covered.

For more details circle NED-849 A7 on enclosed inquiry slip

START THIS MARKING PROFIT PARADE
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REJECT SAVINGS
INCREASED PRODUCTION SAVINGS
PRE-PRINT SAVINGS
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With the new, modern Autoprinter, you date, mark or code multiwall bags and containers as you need them! Completely automatic and electronically controlled, the Autoprinter works right with your production line . . . at up to 3,000 impressions per hour!

Investigate how the Autoprinter can speed your operation, save container pre-printing and storage costs, and eliminate costly manual marking expense.

Write for details and catalog today. Dept. NE.

ime INDUSTRIAL MARKING EQUIPMENT company, inc.
454 BALTIC STREET BROOKLYN 17, N.Y. MAin 4-2601

For more details circle NED-850 A7 on enclosed inquiry slip

FEUTRON*
The Felts of the Future That Are Here Today!

Since they were first announced, early in 1956, the interest in FEUTRON Synthetic Felts has been tremendous.

The properties which characterize FEUTRON Felts are already being utilized in filtration . . . laminated plastics as reinforcing material . . . high temperature bearing seals . . . gasketing. But the uses are practically unlimited.

FEUTRON FACTS
1—Exceptional chemical resistance with thermal stability to 300F.
2—Non-hygroscopic and biologically stable.
3—Available (precision engineered to assure close density and thickness control) in Nylon and the various acetate, acrylic and polyester fibers.

Send today for Technical Bulletin, making request on your firm's letterhead.

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American Felt Company
TRADE MARK
GENERAL OFFICES:
62 GLENVILLE ROAD GLENVILLE, CONN.

For more details circle NED-851 A7 on enclosed inquiry slip

BEWARE OF RUST
in Hydraulic Systems

"It takes only one or two flakes of rust passing through precision pumps and valves to scratch surfaces enough to reduce the efficiency of these components. A scratch on a pump piston can cause an excessive amount of slippage resulting in horsepower loss and overheating. . . ."

Reprinted from APPLIED HYDRAULICS April 1956—page 74

Filter Out Ferrous Grit with

Low pressure FERROFILTERS 1" and under made this way

Other low pressure models to 3" pipe size.

High pressure models also available.

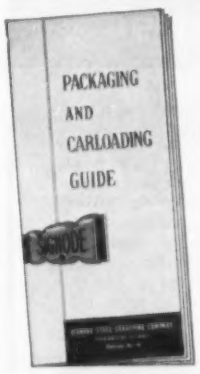
FERROFILTER
Magnetic Separators

Get rid of iron particles circulating in fluid power lines and you'll reduce maintenance costs, parts replacement and downtime.

Send for BULLETIN PM-56

S. G. FRANTZ CO., Inc.
Brunswick Pike and Kline Ave.
P. O. Box 1138 Trenton 6, N. J.

For more details circle NED-852 A7 on enclosed inquiry slip



FREE!
Signode packaging and carloading guide

Forty-four pages of usable facts that can help you lower freight bills, end pilferage, reduce loss and damage claims, reduce container costs and speed packaging and shipping.

Shows how to apply strapping to containers, brace open top and closed freight carloads, barricade car doorways to protect all types of packaged and bulk commodities. Pictures Signode's complete line of hand and power strapping tools and machines, strapping, seals and accessories.

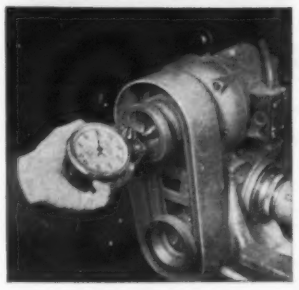
Get your copy of *"Packaging and Carloading Guide"* by mailing this magazine's reply form, or write SIGNODE STEEL STRAPPING COMPANY, 2643 N. Western Ave., Chicago 47, Ill.

THIS SEAL MEANS SIGNODE SECURITY IN SHIPPING

For more details circle NED-853 A7 on enclosed inquiry slip

ALL-PURPOSE JONES HAND TACHOMETERS

for quick, easy, instantaneous readings over full 360 degrees of the dial



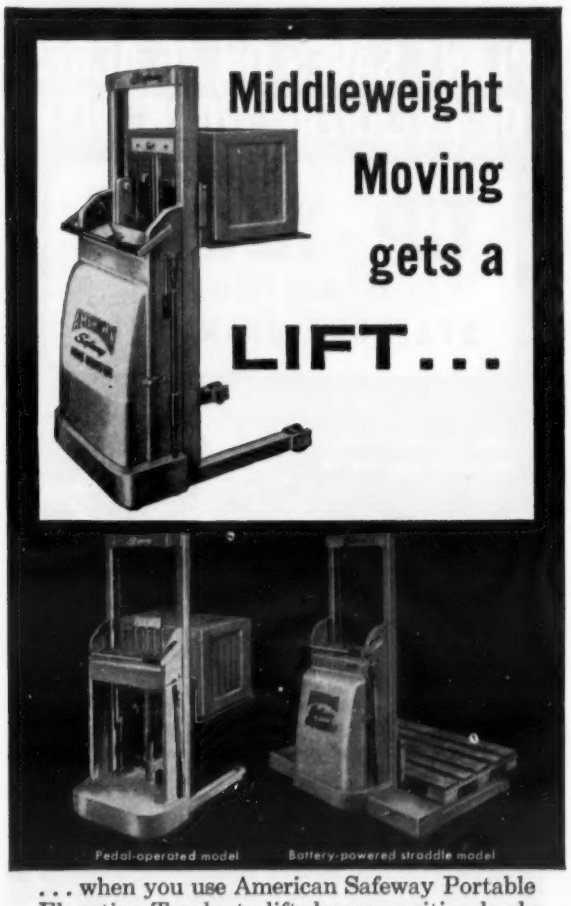
The Jones portable hand tachometer has many uses in industry. They are light, easy to carry and require no electrical connections. The scale readings are over the full 360° of the dial and are uniformly spaced for easy reading at a glance.

Does not require any special skill — Easy to use even by an unskilled person, the Jones portable hand tachometer features a range selector which is a small knurled knob plainly marked for easy and rapid range change.

Handy, accurate instrument for ready use and trouble shooting—Operators, trouble shooters and inspectors find the Jones portable hand tachometer a great assist as they do their work in automotive service stations, power plants, electric generating stations, oil refineries and many other places where a handy, accurate instrument is desirable. **Write for Bulletin 146-1 or demonstration to:**

JONES MOTROLA CORPORATION
STAMFORD, CONNECTICUT

▲ For more details circle NED-854 A7 on enclosed inquiry slip ▲



. . . when you use American Safeway Portable Elevating Trucks to lift, lower, position loads up to 1,500 pounds!

One man easily handles loads formerly calling for a gang. Safeway's a middleweight-mover. Your man can move this truck where floor-loadings prohibit heavy motorized equipment and where aisle-space is limited.

Forks for large-unit loads, platforms for small units, drum-stackers for handling steel drums or barrels—all are available.

Battery-powered or pedal-operated lift mechanisms, both with formed-steel channel masts, double leaf chains operating over 2-sheave rocker-arms, positive-action floor brakes and a host of other features to ease your Middleweight Moving—the American Safeway.

Sold by distributors in principal cities.

Makers of Pressed-Steel Hand Trucks, Magnesium Appliance Trucks, Skid and Pallet Lift Trucks, Pressed-Steel Platform Trucks, Gravity Wheel Conveyors, Barrel and Drum Cradles, and Industrial Wheels.

The American Pulley Company
MATERIALS-HANDLING DIVISION
4294 Wissahickon Ave. • Phila. 29, Pa.

▲ For more details circle NED-855 A7 on enclosed inquiry slip ▲

New Processes & Materials

DROSS RECLAIMER

dissolves dross, leaves dirt

Upon application of Slago dross reclaimer the dross is instantly dissolved, leaving nothing but fine dirt. Its use makes possible recovery of 95 per cent of tin, lead, zinc, cadmium and antimony. Compound contains spirits of metal which vitalizes the metal as dross is dissolved. It improves the body of all nonferrous metals and prevents tin burn-out in high melting point babbitt and solders. Fluidity is increased, stability is maintained and pouring characteristics are improved. Available in shaker top cans from **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

▲ For more details circle NED-856 A7 on enclosed inquiry slip ▲

RUST PREVENTIVE OIL

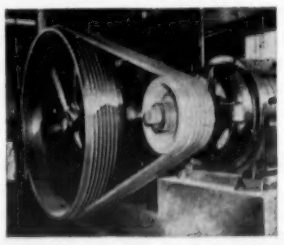
neutralizes and removes corrosion

Moisture and vaporproof barrier against corrosion, water displacing properties and fingerprint removal are forms of protection offered by Froil, a corrosion protective oil. It neutralizes and removes corrosive attack and provides protection for several months. Application can be to precision parts, castings, dies, tools and gages. It lifts water from deep crevices to the surface. Brushing, wiping, dip immersing or spraying are means of application. Soiled metal surfaces should be precleaned before Froil is applied. Made by **Octagon Process, Inc.**, 20 Bank St., Staten Island 1, N. Y.

▲ For more details circle NED-857 A7 on enclosed inquiry slip ▲

HIGH-CAPACITY V-BELT

features oil-resistant cover



All standard sizes are available in the Powerflex Hi-Capacity V-belt, which has an oil-resistant cover to prolong life. Typical drive using 13 standard belts was redesigned to use only nine Hi-Capacity belts on narrower sheaves. Static conducting covers are availbale in A and B-section belts with nylon laminated construction and C, D and E-sections with heavy rayon grommet construction. Made by **Thermoid Co.**, 200 Whitehead Rd., Trenton 6, N. J.

▲ For more details circle NED-858 A7 on enclosed inquiry slip ▲

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The world's greatest Reamer
SELECTION *by the thousand's*
BY STYLES • DIMENSIONS
RANGES • SELECTIBILITY
STOCK ITEMS • NET PRICES

BUY SUPEREAM — The reamer that is sold and stocked in more sizes than any other reamer in the whole world.

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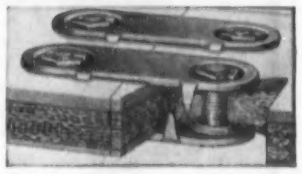
GENTLEMEN: Send us the NEW SELECTIVE CATALOG No. 10A.
NAME _____ Firm _____
Address _____
City _____ Zone _____ State _____

For world's greatest selection of REAMERS!

▲ For more details circle NED-859 A7 on enclosed inquiry slip ▲

FLEXCO® BELT FASTENERS and RIP PLATES

FOR HEAVY CONVEYOR AND ELEVATOR BELTS OF ANY WIDTH



Compression Grip distributes strain over whole plate area

- ★ FLEXCO Fasteners make tight butt joints of great strength and durability.
- ★ Trough naturally, operate smoothly through take-up pulleys.
- ★ Distribute pull or tension uniformly.
- ★ Made of Steel, Monel, Stainless, Everdur. Also Promal top plates.
- ★ FLEXCO Rip Plates are for bridging soft spots and FLEXCO Fasteners for patching or joining clean straight rips.

Order From Your Supply House. Ask for Bulletin F112

FLEXIBLE STEEL LACING CO.
4664 Lexington St., Chicago 44, Ill.

▲ For more details circle NED-860 A7 on enclosed inquiry slip ▲

HOW TO HANDLE DRUM FLUIDS faster!

WORKS DOZENS OF WAYS!

Handiest piece of equipment in the plant! That's what they say at scores of plants where this Fast-Flo Drum Pump is used. It's a really versatile worker . . . has dozens of specific uses. Here are just a few ways it will work for you:

- **For transferring fluids cleanly and safely from upright original drums.**
- **For supplying or adding fluids to production lines, direct from original drums.**
- **For agitation and mixing in closed drums.**
- **For injecting fluids such as cutting oil at high pressure.**
- **For intermittent spraying of lacquers, varnishes and other light coatings.**

Fast-Flo is surprisingly low in cost . . . air-operated . . . easy to handle . . . and *rugged!* You get double-action, high volume, controlled delivery, wherever you use it.

Write today for the new Fast-Flo Idea Book which tells you where and how this pump can save you money.

GRAY COMPANY, INC.
17 Grace Square, Minneapolis 13, Minn.

GRACO *Fast-Flo* **DRUM PUMP**

▲ For more details circle NED-861 A7 on enclosed inquiry slip ▲

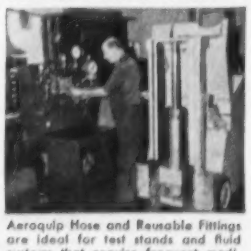
PROVED TOUGHER ON THE JOB!

That's Why Elwell-Parker Trucks Use Aeroquip Hose Lines

Aeroquip Hose Lines are used on hydraulic systems of Elwell-Parker lift trucks. Aeroquip was chosen because of proven dependability . . . and for quick replacement of damaged or worn lines, an important user advantage.

With Aeroquip Bulk Hose and Reusable Fittings, you can replace any fluid line, on all types of plant equipment, in minutes. Just cut the hose to the length needed and attach the fittings using ordinary hand tools. Call the Aeroquip Distributor listed in your Yellow Page Phone Book or write us for full information.

Aeroquip Hose Lines are easy to install, even in confined areas like this Elwell-Parker hydraulic control cabinet.



Aeroquip Hose and Reusable Fittings are ideal for test stands and fluid systems that require frequent modification.

Aeroquip
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IN CANADA: AEROQUIP (CANADA) LTD., TORONTO 15, ONTARIO
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A., CANADA AND ABROAD

▲ For more details circle NED-862 A7 on enclosed inquiry slip ▲

USG® FRACTIONAL H. P. BRUSHES

THESE USG BRUSHES CAN HELP YOU OBTAIN MORE DEPENDABLE SMALL-MOTOR PERFORMANCE

If you manufacture fractional horsepower motors, it will pay you to install USG Brushes to get the most efficient operation from your product. USG Brushes are doing an efficient job for manufacturers of appliances, hand tools, fans, and similar units. To check your specifications with our materials, write for our new Catalog B-56 and the new USG Grade List . . . you'll find them a great help in designing.

221

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW, MICH.

For more details circle NED-863 A7 on enclosed inquiry slip

NEW!
READY-POWER "BANTAM" GAS-ELECTRIC POWER UNITS

FOR MOTORIZED WALKIE AND SMALL RIDER TRUCKS

The new Model W is the most compact, most dependable power generating unit ever built for small trucks. Combining new performance and versatility, the *Bantam* features new 12-volt automotive starting and ignition system, complete choice of idling speed. It fits practically every make in the small electric truck field. Removable cover and end plate provide complete access for servicing engine and generator. Write for information.

READY-POWER
The READY-POWER Co., 3832 GRAND RIVER AVE., DETROIT 8, MICH.
Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

For more details circle NED-864 A7 on enclosed inquiry slip

LEVER ARM CONTROLS

Explosion-Proof Weather-Proof Dust-Proof
(Suitable for Class 1 Group D; Class 2 Group E, F, G; NEMA, 1A, 2, 3, 4, 7, 9, 9A)

A small compact, explosion-proof case which contains Mercoid hermetically sealed mercury contacts mounted on an adjustable carrier attached to a movable shaft. Movement of shaft causes mercury switches to open/close electrical circuits.

Standard types—SP-ST, SP-DT: Available with as many as five 4 amp. switches; three 10 amp. switches or three 25 amp. switches.

Write for Bulletin No. 33

THE MERCOID CORPORATION
4209 Belmont Ave., Chicago 41, Ill.

For more details circle NED-865 A7 on enclosed inquiry slip

New Literature & Catalogs

Wrenches & Fastener Tools

Palnut Co.—High speed methods of assembling Palnut lock nuts and fasteners with special wrench attachments, shanks, and applicators are covered in 8-page catalog and price list 516WR. Tightening procedures, both manual and power tool, plus dimensions and prices of magnetic socket, internal hex, magnetic wing nut and box wrenches, as well as Pushnut fastener applicators are detailed.

For more details circle NED-866 A7 on enclosed inquiry slip

Steam Jet Vacuum Pumps

Schutte & Koerting Co.—Three, four and five-stage steam jet vacuum pumps described in 8-page bulletin 5H3 are used where single and two stage units will not provide suction pressures as low as desired. Pressures provided by units are, respectively, 15 to 1-mm mercury absolute; 2.25 to 0.2-mm mercury abs.; and 0.25-mm mercury to 25-microns, abs. Bulletin describes both condensing and noncondensing types.

For more details circle NED-867 A7 on enclosed inquiry slip

Heat Treat Furnaces

Surface Combustion Corp.—27 standard rated heat treat furnaces, ranging from small laboratory unit to large continuous brazing furnaces, receive capsule type description in 8-page gate-type folder SC-175. Several shops having Surface-standardized equipment are shown.

For more details circle NED-868 A7 on enclosed inquiry slip

V-Belt Drive Engineering

Maurey Mfg. Corp.—66-page "V-Belt Drive Engineering Manual" provides facts and figures for the production man, the engineer and the designer. Three sections cover V-drive selection, how-to-design instructions and general information of interest to V-drive user and designer. Tables in second section provide horsepower ratings of A, B, C, D and E-section V-belts.

For more details circle NED-869 A7 on enclosed inquiry slip

Miniature Lathe Accessories

Louis Levin & Son, Inc.—Line of turret tools for Levin jewelers' lathes, including releasing tap and die holders with shock-free clutches, releasing tap holders, die holders and ball bearing tailstock centers, is described in illustrated bulletin R.

For more details circle NED-870 A7 on enclosed inquiry slip

Water-Base Hydraulic Fluids

Carbide & Carbon Chemicals Co.—"Ucon Hydrolubes Spell Safety" is a 16-page booklet which describes CP hydrolubes and gives their physical properties. Advantages and limitation of the water-base, fire-resistant, hydraulic fluids are given. They have good wear and corrosion resistance.

For more details circle NED-871 A7 on enclosed inquiry slip

High Speed Camera

Wollensak Optical Co.—Technical specifications, applications and design features of line of 8 and 16-mm Fastax high speed motion picture cameras are presented in 36-page catalog No. 3. Exposures range up to 18,000 pictures per second. Details of lenses, exposure meters and other accessories are given.

For more details circle NED-872 A7 on enclosed inquiry slip

Photographic Equipment

Burke & James, Inc.—Practically everything needed by the industrial and research photographer is contained in the 102-page illustrated 59th Annual Photo Catalog No. 956-M. Descriptions, specifications and prices are given on cameras, motion picture equipment, lenses, flash attachments, projectors, developing and printing equipment and photographic laboratory equipment and accessories.

For more details circle NED-873 A7 on enclosed inquiry slip

Abrasive Cut-Off Saw Techniques

Wallace Supplies Mfg. Co.—Detailed methods showing the proper use of swing, chop and rotating abrasive cut-off machines and the Speedy-Cut portable band and hack saws are included in 44-page illustrated book. Descriptions are included on abrasive cut-off saws.

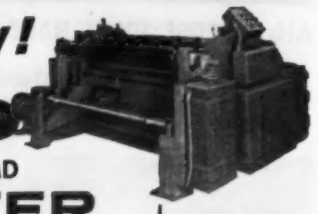
For more details circle NED-874 A7 on enclosed inquiry slip

Tube Cap Connectors

Alden Products Co.—18-page illustrated "Tube Cap Connector Guide" describes variety of tube cap connectors for all types of equipment using electronic tubes. They are made to suit all electrical and environmental conditions.

For more details circle NED-875 A7 on enclosed inquiry slip

It's New!



HOBBS MODEL MD
SLITTER
Engineered for High Production and Versatility

FOUR SIZES 40" TO 72"

Variations in caliper across the sheet make it difficult to slit rigidized vinyl acetate and get clean edges. But one of the largest producers of this material has solved the problem—by installing Hobbs Model MD, with shear type slitters.
Model MD construction adapts for special requirements as in slitting rigid plastics, soft plastics, kraft paper, specialty papers, sized non-woven fabrics.
Depending on material and slitting specifications, operation is at speeds between 250 and 750 f.p.m. Simplex or duplex winding; parent roll stands accommodate 250 to 1500 lbs. Hand operated or automatic tension control and lateral adjustment. Shear or contact type slitting. Main drive either constant speed standard motor with electric clutch potentiometer control—or infinitely variable speed with special acceleration control.
Rewind drive is a Hobbs-Alquist Controlled Tension Motor, synchronized with main drive. Tension range is 20 to 1, with tension controlled by presetting a dial. Send for illustrated Bulletin MDS-4.

HOBBS MANUFACTURING CO.
41A Salisbury St., Worcester 5, Mass.
Representatives in Irvington, N. J.; Chicago, Ill., Cleveland, Ohio; Greenville, S. C.; Toronto, Ont.
Winders • Hand & Power Shears • Slitters • Die Presses • Corner Cutters

For more details circle NED-876 A7 on enclosed inquiry slip

PLANT SAVES ON 45 ACRES OF OVERHEAD WORK WITH
UP-RIGHT
aluminum
SCAFFOLD-ON-WHEELS

You, too, can save with rapidly assembled Up-Right scaffolds

Up-Right Scaffolds • Dept. 145
1013 Pardee St., Berkeley, Calif.

For more details circle NED-877 A7 on enclosed inquiry slip

7332-SR

ON SILICONE RUBBER PARTS
for extreme temperature applications

This 16-page illustrated multi-colored catalog is yours for the asking. It covers in detail more than 40 different rubber compounds, recommends applications for each type and suggests methods of fabrication or production which will provide maximum economy. Hundreds of different rubber shapes are shown and facilities for special rubber compounding are outlined.

Use publication inquiry slip or write direct to

STALWART RUBBER COMPANY

Manufacturing Plants in Jasper, Georgia and Bedford, Ohio
Main Offices at 151 Northfield Rd., Bedford, Ohio

For more details circle NED-878 A7 on enclosed inquiry slip

BACHMAN 4-WAY

5 PORT VALVE
MODEL S-845 110 V.
$16.75

For control of double acting cylinders, separate exhaust ports give speed control in either direction or, if center port is used for exhaust, high and low pressures may be used for power and return cycle.

Stocked in ¼" and ½" sizes these powerful, direct acting valves can be energized continuously or intermittently up to 500 cycles per minute. The solenoid closes with force of 14 lbs against a spring loading of 8 lbs, yet destructive impact and noise are minimized by resilient plastic laminate construction and light weight alumilite spool.

The model illustrated has $\frac{5}{16}$" diameter orifice, ¼" pipe ports, is 8" long, and weighs 2 lbs. Inrush current, 4 amperes, holding, 25 watts. Standard O-ring seals are used for pressures to 200 psi. Bachman valves are not sensitive to dirt or maladjustment, and may be expected to give millions of cycles of dependable service. For intermediate speed changes, positive dwell or cushioning action a Bachman 3-way 3 port valve, installed either on the supply or exhaust side, will suggest many combinations for automatic control.

Write for the name of local distributor or order direct with our guarantee of satisfaction.

JOHN D. BACHMAN & COMPANY
2300 SPARGER LANE BRISTOL, TENNESSEE

For more details circle NED-879 A7 on enclosed inquiry slip

ERIEZ introduces new magnetic elevator-conveyor
for automatic handling of ferrous parts ... speeds production ... cuts costs

POWERFUL PERMANENT MAGNETIC ELEMENT HOLDS OBJECTS ON MOVING BELT

Elevates and conveys ferrous items up inclines from 60° to 90°. Extended transition piece is gently curved to convey objects with higher center of gravity. Conveyed items are discharged to boxes, pallets, bins, etc. Needs only very small floor space. Easily adjusted angle of incline. Neoprene-lined hopper at intake prevents loss of small parts as they are fed to conveyor. Two-wheeled, easily maneuvered. Base only 1½" high ... *forks* under low skids, machines, etc. Standard lengths: 4', 5', 6', and special sizes to order. Write for Bulletin B86-1. Eriez Mfg. Co., 80N Magnet Drive, Erie, Pa.

For conveying nails, bolts, blanks, bottle caps, gears, machined parts, scrap, etc. . . . *all* ferrous items.

ERIEZ HI-POWR MAGNA MOVER

For more details circle NED-880 A7 on enclosed inquiry slip

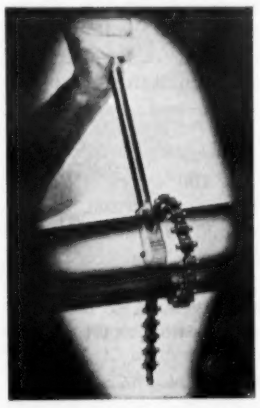
New Processes & Materials

ZIPPER STYLE PLASTIC TUBING in 20 to 1000-ft lengths

Quick lacing and tying of electrical harness assemblies is made possible by Zippertubing, a zipper-style PVC plastic tubing. Multiple wire runs are easily wrapped with open tubing then zipped shut with detachable pull-tab. Tubing can function as wiring ducts, wire markers (in short lengths) and as replaceable cable jacket. Nine colors, including black and clear plastic, are available. Air Force and military types have overlap construction to prevent zipper from touching wires. Sizes range from ½ to 4½ in. in ⅛-in. increments. Wall thicknesses are 0.020 and 0.040-in. Continuous lengths from 20 to 1000 ft are available from **W. A. Plummer Mfg. Co.,** 752 S. San Pedro St., Los Angeles, Calif.

For more details circle NED-881 A7 on enclosed inquiry slip

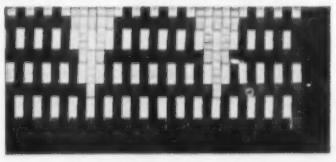
WRENCH & VISE CHAIN average ultimate strength is 7400 lb



Designed for wrenches and vises, WC-522 wrench chain can also be used on any application where strength in tension, flexibility and quick changes in chain wrap are necessary. Extended pins on both sides of each pitch provide the quick-locking action. It holds any shaped material firmly without scratching or marring the surface. Chain is ⅝-in. pitch, 0.330-in. wide over plates and average ultimate strength is 7400 lb. It is supplied in the specific pitch length specified. Made by **Morse Chain Co.,** Dept. 7, Ithaca, N. Y.

For more details circle NED-882 A7 on enclosed inquiry slip

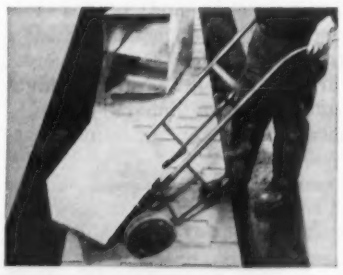
INDUSTRIAL MATTING oil resistant type made in colors



Vividly colored Koroseal links that will not stain, discolor or fade and which resist aging, abrasion, acids, caustics and oil comprise this industrial matting. It has closely-spaced links to prevent catching of women's heels. Matting is custom-made with any combination of gray, brown, blue, yellow, black, green, white, red or orange links strung on parallel nonrusting spring steel rods. All sides are finished with square or tapered Koroseal nosing, and corners are heat sealed. Made by **B. F. Goodrich Industrial Products Co.,** Akron, O.

For more details circle NED-883 A7 on enclosed inquiry slip

STEEL CONVEYOR BELTING can be installed flush with floor

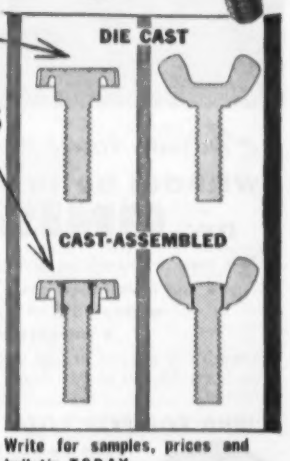


Design of Flat-Top steel conveyor belting which has its carrying surface located above the side chains precludes opening and closing of the slats as they negotiate convex and concave turns. It can be installed flush with the floor or it can be utilized to handle parts or stock which are wider than the belt itself. Belt clearances are such that ordinary bolts, nuts and small tools cannot fall through in heavy duty assembly applications. Length, width, speed and capacity can be varied to suit the application. Belt can also be used in ordinary floor mounted conveyors. Made by **May-Fran Engineering, Inc.,** 1711 Clarkstone Rd., Cleveland 12, O.

For more details circle NED-884 A7 on enclosed inquiry slip

GRC die cast WING & THUMB SCREWS

4 types to meet ALL needs



GRC offers you quality, quantity and economy PLUS your choice of two basic styles—one-piece zinc alloy die cast fasteners or assembled zinc alloy blanks with screw material of steel, brass, aluminum, or other metals to order. Wing Screws have special patented recessed finger grip, generous washer-type shoulder . . . Thumb Screws have exclusive wide top for firm, comfortable grip —plain or shoulder type—All have clean accurate threads . . . rust-proof, noncorrosive, bright finish. Select from huge catalog stock of threads, styles and lengths. Another example of GRC's wide variety of fasteners — wing nuts, cap nuts, thumb nuts, rivets, etc.—die cast in quantity for greater economy!

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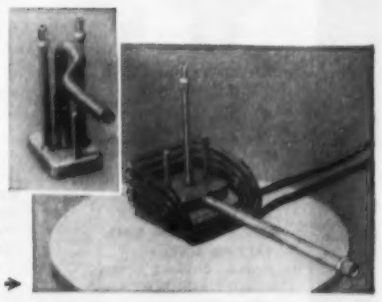

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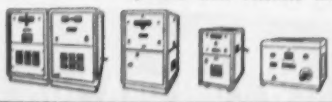

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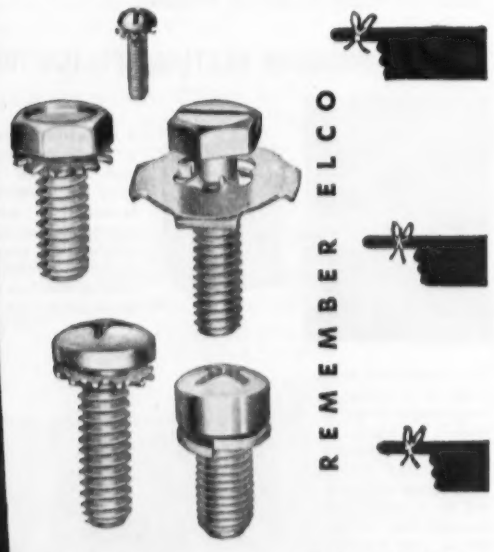

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New Literature & Catalogs

Wirebound Pallet Boxes

General Box Co.—Many ways that bulk handling operations can be served by Generalift standard industrial wirebound pallet boxes are related in 8-page brochure. Specifications are given, along with application data. Regular and bin type have size range from 45½ x 37½ x 24 in. to 38½ x 32½ x 30 in.

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Illuminated Borescopes

National Electric Instrument Co. — Inspection of deep recessed areas which would otherwise be inaccessible is possible with illuminated borescopes, subject of 16-page illustrated catalog. Size range is upward from 0.090-in. diameter by 3-in. working length. Applications are listed and shown.

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Hand Tools

Wright Tool & Forge Co.—Enlarged catalog of hand tools covers wrench sockets, ratchets and handles and contains a section on the dual-purpose "ten point" socket which fits square and hex nuts interchangeably.

▲ For more details circle NED-893 A7 on enclosed inquiry slip ▲

Electronic Accessories

Allen B. Du Mont Laboratories, Inc.—First compilation of entire line of accessories for electronic test equipment and components for electronic circuitry is found in 20-page illustrated catalog. Over 200 items associated with cathode ray oscillographs, oscillograph cameras and other test equipment are described. Prices are given for each item.

▲ For more details circle NED-894 A7 on enclosed inquiry slip ▲

Almost 100 Types of Wire

Pittsburgh Steel Co.—Almost 100 types of steel wire, including spring, ACSR core, strand, rope, shaped, welding, aircraft cord and tire bead types, are covered in detail in 120-page "Manufacturers Wire Handbook." Size range, weights, strength and chemical composition of each are given. Also included are many tables, a hardness conversion chart and a glossary of terms.

▲ For more details circle NED-895 A7 on enclosed inquiry slip ▲

Switches & Relays

Jaidinger Mfg. Co.—About 40 different switches and relays, ranging in size from standard to miniature, are described in illustrated catalog. Operation and characteristics of each are given, along with specifications, size, capacities and other data.

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Hand Trucks

Pollard Brothers Mfg. Co.—Facts and figures found in No. 306 hand truck catalog describe and illustrate line of arc welded hand trucks. It outlines their construction features and relates how they stand up under severe service. Company will also make special units.

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Oxide Cutting Tools

United States Ceramic Tile Co., Diamonite Products Div.—Speeds, feeds, machinability ratings and brinell hardness numbers for Diamonite oxide cutting tools are given in 4-page folder. Data for wide variety of metal are included.

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Press Clutches & Brakes

Fawick Corp., Fawick Airflex Div.—Packaged applications of pneumatic clutches and brakes for modernization of presses and other machinery are described and illustrated in bulletin ML-172. Covered are Airflex clutches, brakes, timing Rotorseals, high speed clutch controls and flywheels mounted on anti-friction bearings. Installation is by machining the crankshaft end.

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Electrical Testing & Troubleshooting

"Electrical Testing and Troubleshooting" by P. T. Green presents in step-by-step form procedures for testing and troubleshooting of faults in electrical circuits of all kinds, including controllers, motors, transformers and transmission lines. Each troubleshooting procedure has been proved in the field, and most of the tests in this book are performed with equipment isolated from the power line. The 200-page text is available for $4 from The Industrial Press, 93 Worth St., New York 13, N. Y.

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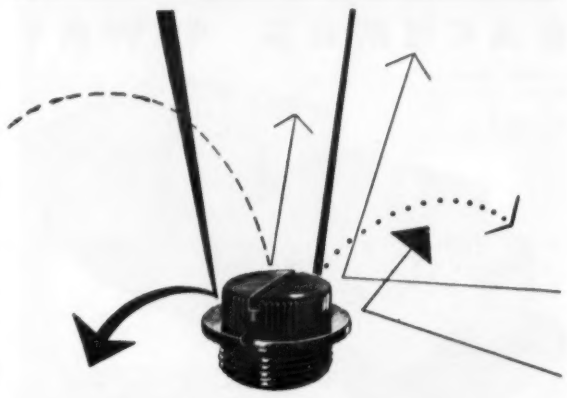

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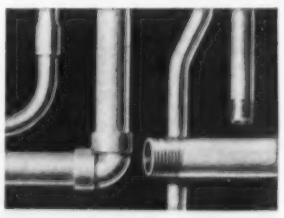
sizes range from ¼ to 6 in.



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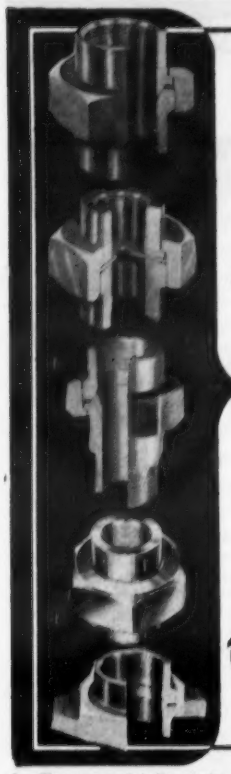

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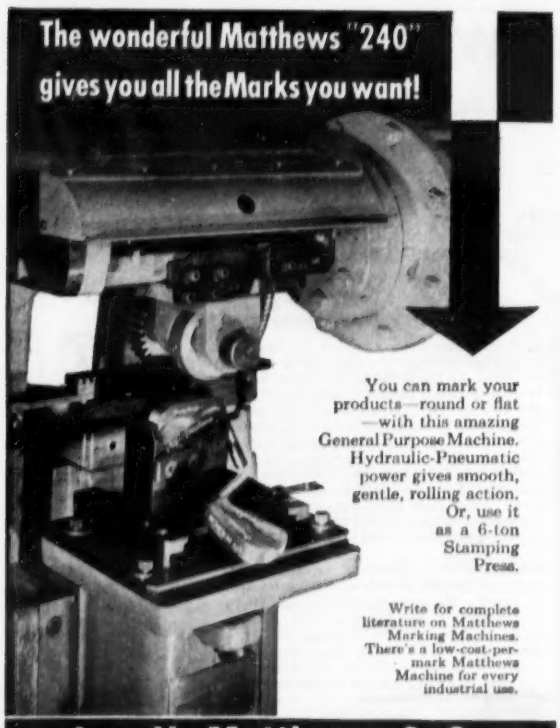

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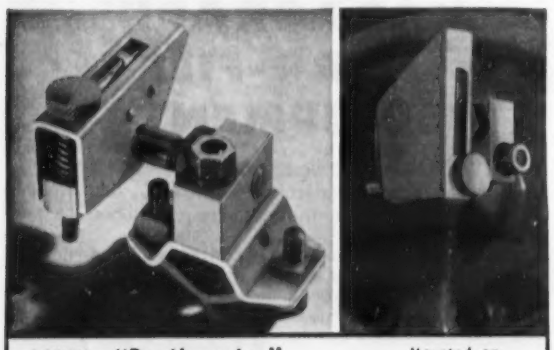

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▲ For more details circle NED-955 A7 on enclosed inquiry slip ▲

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Hanna Flo-Set Valves are suitable for air, oil or water control, with maximum pressure to 250° p.s.i. and temperature to 250° F. They may be mounted in any position.

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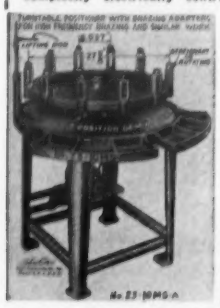

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Charles Eisler, Jr., President

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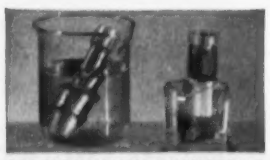

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▲ For more details circle NED-921 A7 on enclosed inquiry slip ▲

New Literature & Catalogs

Cluster Fittings

Weatherhead Co., Aviation Div.—Data on tubing cluster fitting dimensions, installation and assembly methods, piping application categories and engineering recommendations are contained in 44-page "Aircraft Piping & Engineering Application Manual." Information on planning and selection is included.

▲ For more details circle NED-922 A7 on enclosed inquiry slip ▲

Infrared Lampholders

Miskella Infra-Red Co.—Holders for 5 to 50-in. quartz tubular infrared lamps rated to 5000 w are described in illustrated 4-page folder. Design details of the various aluminum-ceramic lampholders are given and a number of applications are shown. Single and multiple modular parabolic units are offered.

▲ For more details circle NED-923 A7 on enclosed inquiry slip ▲

Flexible Shaft Machines

Stow Mfg. Co.—Grinding, sanding, polishing, buffing, wire brushing, wood sanding and drilling in steel or wood can be performed with attachments for ¼-hp multispeed or single speed flexible shaft machines described in 8-page catalog No. 57. They are offered with truck, pedestal, bench or suspension mountings.

▲ For more details circle NED-924 A7 on enclosed inquiry slip ▲

Sound-Powered Telephones

United States Instrument Corp. — Voice of the person using sound-powered telephones supplies all of the power needed to operate such systems, equipment for which is detailed in illustrated catalog 400D. Included are handsets, station components, various accessories and a section on applications.

▲ For more details circle NED-925 A7 on enclosed inquiry slip ▲

Overhead Conveyors

Offered as a "working tool" for materials handling and production engineers, 130-page well-illustrated catalog M4 deals with the Monoveyor overhead conveyor. Design, chain and attachments, various models, and components of the conveyor are detailed. Many applications are shown and specifications are given. Request on company letterhead from Mechanical Handling Systems Inc., 4600 Nancy Ave., Detroit 12, Mich.

▲ For more details circle NED-926 A7 on enclosed inquiry slip ▲

Temporary Help Service

Manpower, Inc.—The role of a temporary help service in business is outlined in 24-page illustrated brochure "The Inside Story of Temporary Help." Services range from market research and typing to factory and convention work. Details of cost saving features are given.

▲ For more details circle NED-927 A7 on enclosed inquiry slip ▲

Cooling Towers

Binks Mfg. Co., Cooling Equipment Div.—"Whisperquiet" fans with tip speeds under 2300 fpm are features of 24 sizes of cooling towers illustrated and described in 12-page bulletin 477-A. Squirrel-cage blower, motor and drives are located in the dry air stream. Refrigeration range is 5 to 360 tons.

▲ For more details circle NED-928 A7 on enclosed inquiry slip ▲

Heatproof Protective Coatings

Markal Co.—Protecting metals from scaling and corrosion up to 2100° F is function of four basic coating types detailed in catalog "Stop Costly Metal Destruction." Its 4 pages also state that coatings offer carburization and decarburization control during heat treating, and protect against acids, alkalis, salt spray and severe weather conditions.

▲ For more details circle NED-929 A7 on enclosed inquiry slip ▲

Efficient Power Sweeping

G. H. Tennant Co.—Recent technical developments have made possible use of power sweeping in areas formerly swept by hand, according to 8-page booklet "Can We Use Mechanized Sweeping Profitably?" It discusses aisle width, dust control and possible cost savings.

▲ For more details circle NED-930 A7 on enclosed inquiry slip ▲

Swivel Joints

Barco Mfg. Co.—Low torque plane swivel joint which provides 360-degree rotation in a single fixed plane and self-aligning type which provide 360-degree rotation plus 15-degree side flexibility are among joint types covered in illustrated catalog 269-A. They are made of various metals for services up to 4000 psi for feeding fluids to rotating equipment.

▲ For more details circle NED-931 A7 on enclosed inquiry slip ▲

BULLETIN CD-400

New COMPLETE SPECIFICATIONS *CONE-DRIVE SHAFT MOUNTED SPEED REDUCERS*

★ fractional to 13 hp
★ reductions from 5:1 to 60:1
★ readily motorized
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CONE-DRIVE GEARS DIV.
MICHIGAN TOOL COMPANY
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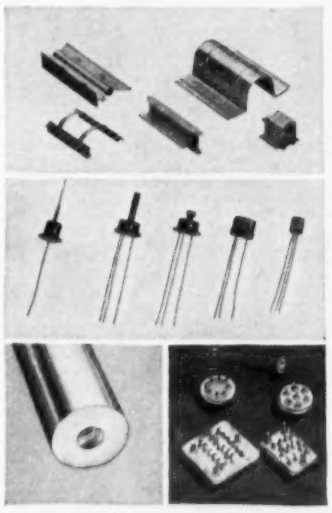
▲ For more details circle NED-932 A7 on enclosed inquiry slip ▲

TWO METALS *are often better than one . . .*

and **GENERAL PLATE** *Clad metals for electronic uses are a case in point*



General Plate ALIRON®, ALNIFER®, and NIFER®, are preferred materials for vacuum tube plates. Offering improved performance with attractive cost savings, they are supplied in annealed coils ready to feed through your production tools. Write for Bulletin 717C.

General Plate TIN CLAD NICKEL is an improved material for transistor cradle supports. The layer of pure tin is unvarying in thickness and is bonded to a pure electronic grade nickel backing so completely that voids and contaminating inclusions are eliminated. Write for Bulletin 708.

General Plate COPPER CORED 52 ALLOY WIRE provides better glass-to-metal seals. With a 30% copper core you'll get up to three times the electrical and thermal conductivity over solid lead wires of the same size . . . permits miniaturization in sealed terminal blocks and hermetic headers. Write for Technical Data Bulletin 706.

Write for Catalog PR-700A, covering many other combinations in both base and precious clad metals — composite electrical contacts — TRUFLEX Thermostat Metals.

Metals and Controls Corporation
GENERAL PLATE DIVISION
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▲ For more details circle NED-933 A7 on enclosed inquiry slip ▲

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A "letter perfect" soldering job is yours when you specify KESTER FLUX-CORE SOLDER . . . the "letters perfect" for any type of soldering on the assembly line or service bench.

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Catalog File! Air Cylinders; 750 Lb. Hydraulic; 1500 Lb. Hydraulic; Clamp Cylinders; Air Valves; Built-in Valve Type Cylinders. Complete with parts data, specifications and prices. Send today!

24 HOUR PHONE SERVICE—If you need fast service call your Carter representative or the plant, LANSING, ILLINOIS, GRanite 4-3305 or CHICAGO, BAyport 1-7186. Teletype LNSG, ILL 1119X.

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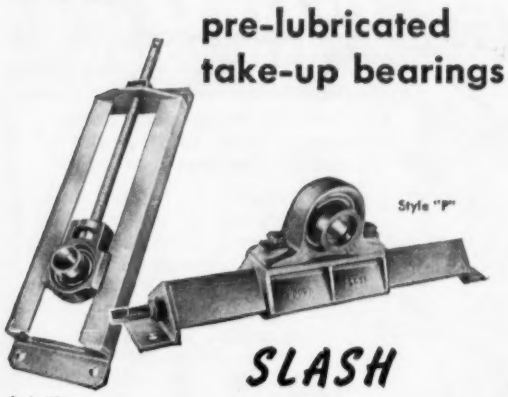
AIR CYLINDERS • HYDRAULIC CYLINDERS
AIR VALVES • ROTARY ACTUATORS • SPECIAL CONTROLS

For more details circle NED-935 A7 on enclosed inquiry slip

new...

pre-lubricated take-up bearings



SLASH maintenance costs

Pre-Lubricated At Our Factory For Life • Seals Lubricant In—Dirt Out • Standard Series Ball Bearings • Self-Aligning • Frames of Welded Structural Steel • Can be Operated in Tension or Compression

Wood's T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PA.
Cambridge, Mass. Newark, N. J. Dallas, Texas Cleveland, O.

For more details circle NED-936 A7 on enclosed inquiry slip

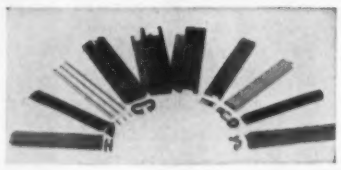
80 Pounds of Heavy-Duty Power For Easier Threading On The Job!

OSTER No. 142 Featherweight CHAMP
POWER DRIVE FOR HAND PIPE TOOLS
Send for complete information
THE OSTER MANUFACTURING CO., 1311 East 289th St., Wickliffe (Cleveland), Ohio

For more details circle NED-937 A7 on enclosed inquiry slip

New Processes & Materials

RIGID PVC EXTRUSIONS shapes are dimensionally stable



Rigid polyvinyl chloride compounds Vin-Con 349 and 350 are now offered in various custom-extruded profiles for use in a diverse range of industries. Typical example is a red extruded protective shield of highly dielectric Vin-Con 350 for use over a union on an electric monorail. In window applications for the building field, material possesses excellent dimensional stability and resistance to the elements. Advantages here are ease of sliding and elimination of galling. Chemical resistance is also excellent. Materials can be extruded to close tolerances and inexpensive extrusion dies can be used. Offered by **Conneaut Rubber & Plastics Co.,** Dept. C.E., Commerce St., Conneaut, O.

For more details circle NED-938 A7 on enclosed inquiry slip

COPPER TAPE in 0.00015-in. thickness

Copper tape initially offered in thicknesses as low as 0.00025-in. is now available in 0.00015-in. thickness to meet requirements of Air Force wafer-type coils. This ultra-thin copper tape weighs less than the equivalent amount of wire formerly employed in these coils and cuts volume by introducing a favorable stacking factor. Typical uses include transformers, solenoids, relays, coils, signoid and pulse transformers, and traveling wave tube solenoids. Tape has good electrical characteristics and operates at high ambient temperatures. Made by **American Silver Co.,** Dept. NED, 36-07 Prince St., Flushing 54, N. Y.

For more details circle NED-939 A7 on enclosed inquiry slip

GLASS FIBER TAPE stays bonded at 550° F

Nonorganic pressure-sensitive adhesive used with glass fiber Hi-Temp tape keeps its bond at up to 550° F. It also performs well in low temperatures and has been tested to −100° F. Tape has excellent electrical properties and rates as a class H insulation. It also maintains stability in presence of most acids and lubricating oils, and will not corrode or stain paper, glass, brass, copper, steel, aluminum or cloth. Widths, available from ¼ to 2 in., can be printed in one, two or three colors. Made by **Topflight Corp.,** Dept. G, Ninth Ave. & Queen St., York, Pa.

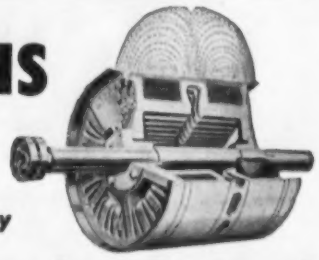
For more details circle NED-940 A7 on enclosed inquiry slip

PAINT REMOVER for epon and epoxy based paints

Removal of tough epon and epoxy based paints is now made easy with specially compounded LPO nonflammable paint remover. It will blister these paints off in less than 5 minutes without damage to underlying wood or metal surfaces. A standard heavy bodied form which clings to vertical surfaces and an unthickened form recommended for use in tanks are offered. Material has no flash point, will not harm steel, aluminum or brass, has slight bleaching effect on wood and tends to etch galvanized metal. Applied by either spraying or brushing, remover can be flushed off with water stream, lifted off with putty knife or wiped off with soft cloth. Formulated by **RPO Chemical Corp.,** 2729 E. Nine Mile Rd., Hazel Park, Mich.

For more details circle NED-941 A7 on enclosed inquiry slip

STEARNS 2-Coil Electro Magnetic Pulley



Boosts Tramp Iron Removal ... Cuts Pulley Costs

Stearns powerful new magnetic pulley gives exceptional tramp iron removal by blanketing the entire load mass. Here's why —

New 2-coil design produces a magnetic field that is deepest at the center of the conveyor belt where load is heaviest. That's why smaller 2-coil pulleys costing less, can now be used on many jobs without altering standard conveyor practices for belt speed, etc. Pulley fits right in — makes it easy to select.

NEW FREE BULLETIN TELLS HOW

Simplified pulley selection method tells you how to choose a magnetic pulley yourself — and be right. Send for new Stearns bulletin 303-DL.

19

STEARNS MAGNETIC PRODUCTS
A DIVISION OF THE INDIANA STEEL PRODUCTS COMPANY • VALPARAISO, INDIANA
635 South 28th Street • Milwaukee 46, Wisconsin

For more details circle NED-943 A7 on enclosed inquiry slip

STOP GUESSING START SAVING!

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TIME-RECORDER + TOTALIZER

gives complete production data continuously... automatically

Chronologically records actual on-and-off time by duration.
Gives absolute time-study data per operation.
Establishes true cost accounting.
Permits supervision of parts replacement, repairs, maintenance.
Gives total operating time of machine, feed or belt-line.
Allows ability to anticipate equipment servicing.

Now get complete, accurate, documented production data on any machine, process, operation. Eliminates costly, inaccurate spot-checks, time studies.

TR+T records on continuous 4-month tape. Uses no ink. No maintenance. Thousands in use in large and small plants.

Write for brochure "F-6" and list of users.

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DIVISION OF HEAT-TIMER CORPORATION
657 BROADWAY • NEW YORK 12, N. Y.

For more details circle NED-945 A7 on enclosed inquiry slip

GREASE GEARS AND CABLES

this New, Easy Way with TENAC SPRAY

Here's a complete push-button, open gear lubrication system in one easy-to-use package. Now you can put a coating of super-tough, long-lasting TENAC grease on any open gears, any cable, anywhere . . . and not even get your hands dirty!

TENAC sets almost as soon as you spray it on. And it *stays* on! The more punishment you give it, the tighter it clings.

TENAC's flexible, adhesive film won't give way to pressure or rubbing forces. It sheds water, and will not dry or flake no matter how long you use it between greasings.

Call your Houghton Man for a demonstration. Or write E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

TENAC...a product of E. F. HOUGHTON & CO.
PHILADELPHIA • CHICAGO • DETROIT • SAN FRANCISCO

Ready to give you on-the-job service...

For more details circle NED-944 A7 on enclosed inquiry slip

See for Yourself..

the SIMPLICITY of Stearns ELECTRO-MAGNETIC DISC BRAKES

(the choice of leading motor manufacturers)

Only 5 basic parts, which can be completely disassembled and reassembled in minutes with only a screw driver as your complete tool kit.

LONGEST, TROUBLE-FREE OPERATION. Only 5 basic parts with an absolute minimum of wearing parts.

SIMPLEST TO ADJUST AND MAINTAIN—the *only* brake with external, visual wear indicators. A screw driver is your complete tool kit.

FAST STOP—QUICK RELEASE. Brake is spring-set, solenoid-released without delay or drag.

AN ENCLOSURE—A MOUNTING—A SIZE FOR EVERY NEED. Explosion proof, dust and waterproof, or standard enclosures. Vertical or horizontal, motor frame or floor mounting. Stub or thru-shaft design. Built to fit NEMA motor frames from 1/20 to 100 hp size range. 12

Stearns ELECTRIC CORPORATION formerly Stearns Magnetic Inc.

Call your local Stearns representative for complete magnetic brake data, or write Stearns direct for free Brake Portfolio D.

120 NORTH BROADWAY • MILWAUKEE 2, WISCONSIN

For more details circle **NED-945 A7** on enclosed inquiry slip

NEW WAY TO GALVANIZE METAL

This new method of restoring damaged galvanizing which occurs during welding, saves time by coating the welded metal giving it the non-corrosive properties of the original hot dipped galvanizing. Tests prove FARCO BRAND Z will withstand 800 hours salt spray bath without rusting. The powerful flux causes the metallic content to coat any metal including Copper, Stainless Steel, Monel, Bronze, Nickel, Chromium and Evanohm.

Although strong enough to remove scale from black iron and penetrate rust and grease, it is completely stable and will not pick up moisture or deteriorate in the can.

Material does not leave a line of demarcation but amalgamates with galvanizing. It may be applied in flat, vertical or overhead position binding more tightly than hot dipped and will not flake off. The material may be applied with either torch or soldering iron depending on thickness of metal.

FARCO BRAND Z is available in 2 pound cans at $3.00 each, 10% discount on six can lots, fob Philadelphia. **Farrelloy Company,** 1246 North 26th Street, Philadelphia 21, Pa. *Advt.*

For more details circle **NED-946 A7** on enclosed inquiry slip

NEW! DISCOVERY! SAVES PLUMBING BILLS

★CLEANS INSTANTLY

CHICAGO — Jan. 2nd—Factories, Machine Shops, Offices including Home Owners are constantly having trouble with clogged-up pipes which proves expensive in Costly Plumbing Bills—

But now—using Water Impact and Air Pressure, here is a new unit called the **Plumber's Flushing Gun,** which cleans all lines up to 100 ft. It will open any number of bends in pipe. Yet anyone can operate this new gun, which triggers easily.

TOILETS, URINALS, SINKS, and FLOOR DRAINS clogged with paper, grease, rags, sand, and other debris can be cleared with one or more shots from the gun, **saving the owner, the Gun's price the first time it is used.** This new Flushing Gun may be used on any ½ to 6 inch waste pipe including Sink Drains, Floor Drains, Hot Water Pipes, Drinking Fountains, Septic Tanks, and Urinals. Obstructions melt away INSTANTLY when struck by the hammer like blow of this new unit.

AMAZINGLY EFFECTIVE

Hose attachment feeds water thru gun while air is released causing chain reaction

This new Plumber's Flushing Gun is offered on a 30 Day Free Trial to prove its value. **BUT MOST IMPORTANT IS THIS**—What is this Tool worth to your Factory, Building, Machine Shop or in your own Home in **Costly Plumbing Bills Saved.** For your own good—Fill coupon right now—No agent will call—Obey that urge, mail now or write postcard. (Chicago Phone Kildare 5-1702)

MILLER SEWER EQUIPMENT, INC. 4638 N. Central Ave., Chicago 30, Ill.

Please send FREE BOOKLET on Flushing Gun, I am not obligated.

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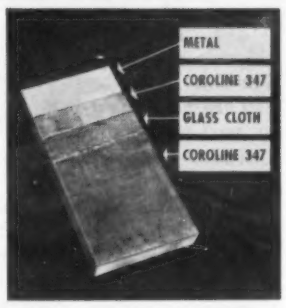
FIRM

STREET CITY STATE

For more details circle **NED-947 A7** on enclosed inquiry slip

New Processes & Materials

PLASTIC LINER is brushed or sprayed on



Noncorrosive linings can be applied to tanks, scrubbers, steamers, columns and ducts, as well as flat surfaces, with Caroline 347 epoxy base compound. Plastic is inert to organic acids, dilute mineral acids, caustics, alkalines and most solvents. It is composed of two parts which are mixed at time of application by either brush or spray methods. Compound can be used satisfactorily in applying glass cloth or other fabrics. Successive coats can be applied immediately. Plastic hardens in about 24 hours. Made by **Homalite Corp.,** 14 Brookside Dr., Wilmington 4, Del.

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COPPER-CLAD LAMINATE developed for printed circuits

High insulation resistance, good cold punching qualities and low moisture absorption are qualities of Cirprint, a copper-clad laminate for printed circuit use. The XXP grade meets MIL 3115 B for type PBE-P and UL requirements and reportedly meets requirements for most printed circuits. It is translucent for visually checking the register of circuits printed on both sides and for checking the homogeneous structure quality of the material itself. Thicknesses range from 3/64 to ¼-in. Made by **Formica Corp.,** 4408-A Spring Grove Ave., Cincinnati 32, O.

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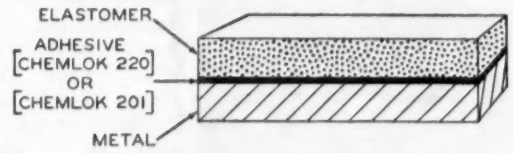

sistance to wide temperature variations, hot and cold water, salt spray, chemicals, solvents and corrosive athospheres is obtained by using 201 as a primer with 220. Adhesives can be brushed, sprayed, dip or roll-applied at room temperature. Coated parts can be stored up to four weeks before processing without affecting bond quality. Shelf life is at least one year. Made by **Lord Mfg. Co.,** Dept. F, 1635 W. Twelfth St., Erie, Pa.

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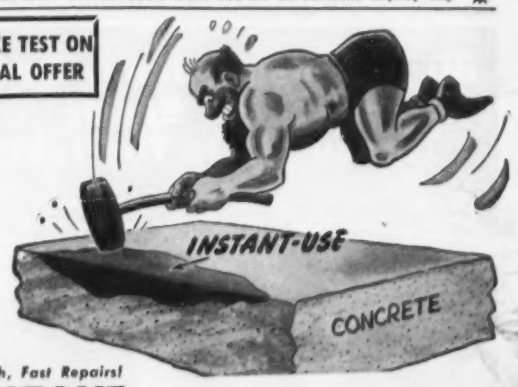

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